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ABSTRACT

Factors influencing students' choice of institutions are examined in Part A of the SISFAP studies. The principal empirical base of the study consists of a large-scale longitudinal data file that assesses students' college choices at three time points: the beginning of the 11th grade, mid-way through the 12th grade, and college entry. Multivariate analyses of the data were conducted to determine how the students' institutional choices are affected by (1) student characteristics, (2) the characteristics of the students' higher education environment, (3) state and federal financial aid programs, and (4) student aid packages offered by institutions. Chapters examine: the design of the study; consistency and change in choice behavior; summary of regression analyses; effects of student characteristics; higher education environment; impact of state programs; Basic Educational Opportunity Grants; and effects of financial aid offices. Appendices contain procedures for matching and merging data files, reliability of college admissions test and questionnaires, documentation of the 11th-12th grade-entering freshman longitudinal file, and recent trends in postsecondary access and choice. Among the conclusions were these: although 41.7 percent of students who eventually attend college express no college preferences when they start 11th grade, many of them end up applying to only one college; two students in five apply only to the institution that they enter; student ability appears to be one of the most important factors in college choice; distance from home is a major factor; and Orientals and high-ability students have the most success in implementing early choices. (LC)

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Final Report

SISFAP-Study A

The Impact of Student Financial Aid Programs on Student Choice

by
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With the Assistance of
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SISFAP Study A

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Executive Summary

Part A of the SISFAP studies is primarily concerned with factors influencing students' choices of institutions. The principal empirical base of the study consists of a large-scale longitudinal data file which assesses students' college choices at three time points: the beginning of the 11th grade, mid-way through the 12th grade, and college entry. Data for assessing change between 11th and 12th grade were available from some 725,000 high school students; data for measuring changes between 11th and 12th grade and college entry were available for approximately 130,000 students. Specific data for each student included early college choices (11th and 12th grade), high school grades and ability test scores (PSAT, SAT, and ACT), and various personal characteristics (sex, race, family education and income). Multivariate analyses of these data were conducted to determine how the students' institutional choices are affected by (a) student characteristics, (b) the characteristics of the students' higher education environment, (c) state and federal financial aid programs, and (d) student aid packages offered by institutions. Highlights of the findings from this study are summarized below.

A. General

(1) The possible effect of state and federal financial aid programs on student choice is limited by several conditions: differences in student ability and aspirations, institutional admissions policies, and the type of higher educational system in the student's home state.

(2) Although 41.7% of students who eventually attend college express no college preferences when they start the 11th grade, many of these students end up applying to only one college. Among the majority who do express preferences in the 11th grade, the effects of family income are already well established: Compared to students of comparable ability from higher income levels, students from the poorest families tend to choose less expensive and less selective colleges located closer to home. Since these findings suggest that early choices are influenced by the students' perceptions of what they believe they can afford, the impact of financial aid programs on student choice might be strengthened if appropriate information about aid opportunities were disseminated well before the 11th grade.

(3) The largest discrepancies between early choices and the college actually entered occur with universities and community colleges: Two-thirds more students prefer universities (in 11th grade) than actually enroll in them two-years later, and nearly three times more students enroll in community colleges than prefer them in the 11th grade.

(4) Further constraints are apparent at the time students apply to college. Two students in five apply to no institution other than the one they enter. Students who end up enrolling at selective private universities are least likely to apply to no other institution (8%), whereas students who end up attending community colleges are most likely to apply to no other institution (48%).

(5) Many students fail to implement their early college choices. Only 29% of 11th graders succeed in enrolling in their most preferred college, and only 42% of 12th graders enroll in their most preferred college. Compared to early choices, the colleges students actually enroll in are less selective, cheaper, closer to home, and more likely to be two-year colleges rather than universities. Self-selection appears to be a much more important reason than unsuccessful applications for failing to enroll in the first-choice college.

(6) The academic selectivity of institutions appears to be a more important consideration in student decision-making than any other institutional characteristic. Selectivity is more closely associated with student personal characteristics than any other early choice measures, and the selectivity of early choices shows more consistency over time than any other measure of early choice.

B. Student Characteristics

(1) Student ability appears to be a more important factor in both early and later choices than any other student characteristic (e.g., sex, race, parental income). Highly able students, in comparison to less able students, opt for more selective and more expensive institutions located farther from home.

(2) While family income is an important determinant of both the cost of the colleges preferred in 11th and 12th grade as well as the cost of the college actually attended, ability is more closely associated with college costs. Students of very high ability attend colleges that are

nearly twice as costly (mean tuition + fees = $1,353) as colleges attended by students of low ability ($708).

(3) Family income and the educational level of the student's parents show similar patterns of relationships to choice outcomes: Students with affluent and highly educated parents attend more selective and more costly colleges located farther from home than students with poorer and less educated parents. Parental income, moreover, shows significant relationships to these choice outcomes even after all other student characteristics (parental education, ability, sex, race, etc.) are controlled.

(4) Parental income is more strongly and consistently associated with the distance from home to college than with any other choice variable: Students from low income families are most likely to attend college close to home. At the same time, distance from home to college is more closely associated with parental income than with any other student characteristic. Given the additional expense associated with living away from home, this finding suggests that coming from a poor family may represent the biggest obstacle to living away from home.

(5) Among different ethnic groups, Orientals show one of the most distinctive patterns of college choice. Their colleges are substantially more selective, more expensive, farther from home, less likely to be two-year colleges, and more likely to be universities than the colleges entered by other groups (including Caucasians).

(6) Black institutions rely heavily on the local Black population for most of their students.

(7) Orientals and high ability students have the most success in implementing early choices. American Indians and Blacks are least likely to implement early choices, independent of ability, family, background, and other personal characteristics.

(8) Despite their heavy concentration in community colleges, Chicanos show a stronger-than-expected preference for private colleges.

(9) Institutional choice for certain student groups is constrained by demographic factors. Chicanos, for example, frequently enter public two-year colleges because many of them live in states with large community college systems. Since the public four-year college and university systems

in these states typically have selective admissions policies, Chicanos frequently have no option other than the two-year college.

C. Geographic Factors

(1) The distance from home of the students' early choices is a major factor in whether they are able to implement these choices. Thus, regardless of the students' sex, race, or family income, they are substantially more likely to enter the college preferred in the 11th grade if that college is located near rather than far from home.

(2) The study provides clear evidence of the impact of local public institutions on the private institution's quest for students: Students are less likely to choose a private institution if there is a public four-year college or university nearby. The proximity of private institutions is not a major determinant of whether the student chooses a public institution.

(3) Public institutions also compete with each other for students: The student's chances of choosing a community college are substantially reduced if there is a public four-year college or nonselective public university nearby.

(4) A number of other choice outcomes are affected by the proximity of different types of institutions:

a. Students are more likely to enroll at their most preferred institutions if they live in an area that has few public and private institutions. This suggests that (1) many students may make last-minute decisions to attend college near home because of the convenience and relatively low cost of commuting; and (2) students living in sparsely populated areas have only a limited number of choice options.

b. Black students are highly likely to enroll in predominantly Black colleges if such colleges are relatively near home. Black students living near Black colleges are 10 times more likely to enroll in such colleges than are Black students who live far away.

c. A student is more likely to enroll in a relatively high cost institution if there are large numbers of private institutions nearby. One possible reason for this finding is that public tuition tends to be relatively high in regions with strong private institutional systems.

d. A student's chances of choosing a religious college are reduced if there is a community college nearby.

e. A student's chances of attending a university are increased if there is a relatively nonselective public university nearby.

D. State and Federal Aid Programs

(1) Although student choice is related to a number of state aid program characteristics, the causal connections between financial aid and student choice at the state level are typically ambigious. The relationships described below (1a through 1d) should thus be interpreted with caution:

a. Students living in states with high concentrations of BEOG dollars per student are more likely to change their choices to relatively low cost, nonselective institutions located near home (community colleges, in particular).

b. Students living in states with large amounts of federal BEOG dollars per student frequently stay in their home state and choose either small nonselective pricate colleges or public community colleges.

c. In states with large amounts of federal GSL dollars per student, more students attend college out-of-state and more choose high cost and highly selective colleges.

d. Students who live in states with large amounts of federal campus-based program dollars (SEOG, NDSL, CWSP) per student are also more likely to choose prestigious, selective, and high cost institutions, but they are more likely to attend college near home.

(2) The level of state financial aid is associated with a number of student choice outcomes:

a. In states with substantial aid programs, high ability students are more likely to choose private institutions and low ability students are more likely to choose public institutions (two-year colleges, in particular). One possible explanation for this result may be that state aid programs frequently have a merit component which limits eligibility to the highest-achieving students.

b. Students living in states with strong aid programs are more likely to choose high-cost and selective institutions. This relationship, however, occurs only among higher ability students.

c. Having a strong state aid program appears to encourage students to pick a college in their home state. Once again, this relationship is confined largely to students in the higher ability ranges.

(3) The state "tuition gap" (difference between public and private tuition) has its greatest adverse effect on nonselective private colleges: Students who might otherwise choose such colleges frequently opt for a lower-cost public institution if the gap is sufficiently large. The attractiveness of more selective private institutions to prospective students does not appear to be affected by the public-private tuition gap.

(4) Being from a relatively well-to-do family increases the student's chances of enrolling in a private institution. However, among students from "middle income" families ($12,500-$20,000 in 1978 dollars), family income is negatively associated with enrolling in a high cost college. In other words, once ability and other student characteristics are controlled, students from this "upper middle" income range are slightly less likely to enroll in a high cost college than students from the "lower middle" range. Financial aid policies which impose income limitations on eligibility may contribute to this anomaly.

E. The Impact of Competing Aid Offers.

(1) The student's final choice among competing institutions can be affected by comparative financial aid offers: Students are most likely to opt for those institutions offering the largest grants. Decisions are not generally sensitive to the relative amounts of loan or work-study support offered. Further, the total size of the aid package shows little

relationship to choice, once the relative size of the grant offers is taken into account.

(2) When students choose between competing public and private institutions, the net tuition (tuition minus total financial aid) of the private institution carries the most weight in the final decision. The smaller the net tuition of the private institution, the more likely the student will be to opt for that institution instead of the public one Once the effect of the net tuition of the private institution is taken into account, neither the net tuition of the public institution nor the relative net tuitions of the two competing institutions is of much consequence in the final decision.

Chapter 1

Design of the Study

Chapter 1

Design of the Study

This report summarizes the major findings from a national longitudinal study of the impact of student financial aid programs on student choice of postsecondary institutions. The major purpose of this study was to determine how the secondary school student's decisions about what type of postsecondary institution to attend are influenced by various federal and state financial aid programs. The principal findings are intended to provide a basis for development of public policy concerning future financial aid programs at state and national levels.

Access or Choice?

Public policies that guided the development of financial aid programs during the 1960s were designed in part to facilitate student access to college. Policymakers during these years generally subscribed to the notion that many students were unable to attend postsecondary institutions simply because they lacked the financial resources. Increasing the amount of variable financial aid was thus intended to facilitate access to postsecondary education among students from low income families.* With the proliferation of generous state and federal financial aid programs and the massive expansion of low-cost public institutions that took place during the 1960s, public attention has shifted somewhat from the issue of access to the question of choice: What kind of institution does the student attend? Since most students are now able to obtain sufficient support to enable them to attend _some_ kind of institution, _where_ one attends college takes on increasing importance.

A growing body of research (Astin, 1975, 1977) suggests that important _outcomes are associated with_ the _type_ of institution the student attends.

*For a special analysis of recent trends in postsecondary access, see Appendix F.

In the short run, the student's institution can make a substantial difference in the quality of the educational experience; in the longer run, the type of institution from which the student graduates can have a lasting impact on later vocational and career development. For example, recent research on college dropouts (Astin, 1975) shows that the student's chances of completing a program of study are not the same at different types of institutions. In other words, even when the student's social background, ability, aspirations, and high school achievements are taken into account, the probability of being able to fulfill initial plans to complete a baccalaureate degree is substantially greater in certain types of institutions than in others.

That institutional choice may be a more important issue than mere access is further underscored by the fact that, for many secondary school students, attending some form of postsecondary education is a foregone conclusion. Decision making during the later years of secondary school thus reduces to a matter of which institution one attends, rather than attendance versus non-attendance. Most commercial college guides and much of the counseling activity in secondary schools is aimed at such students rather than at students who are unsure about whether or not to attend college.

The Choice Process

Institutional choice can be viewed as the outcome of two sets of interacting conditions: the characteristics and choice behavior of applicants, and the characteristics and admissions practices of institutions. While a good deal is already known about what types of students attend what types of institutions (see Astin, King, and Richardson, 1976), such descriptions do not necessarily yield information on how particular students end up in particular institutions. Thus, a major objective of the current study is to provide a comprehensive analysis of the choice process which will yield information on policy alternatives that are likely to affect institutional attendance for particular types of students.

Choosing a college ordinarily involved a number of sequential steps: developing a set of preliminary choices, evaluating these choices and developing a revised set, submitting applications, review of applications by institutions, notifying students of acceptance or rejection, offers of financial aid (if any), review of acceptances and financial aid offers by the applicant, and final selection. A major assumption underlying this particular project is that much of the decision making concerning what college to attend occurs during the last two years of secondary school. The data used for the study thus cover the period of time beginning early in the eleventh grade and ending with actual college entry approximately two years later. Longitudinal data for this study were collected at the beginning and end of this time period, and also at an approximate midpoint during the senior year. These three time points are shown schematically in figure 1. Data concerning choice behavior at the beginning of the junior year were obtained from the Preliminary Scholastic Aptitude Test-National Merit Scholarship Qualifying Test (PSAT-NMSQT) taken in October of the eleventh grade. These same students were followed up some fourteen to seventeen months later when they took either the Scholastic Aptitude Test (SAT) or American College Test (ACT). When students take the PSAT in eleventh grade, they are asked to name their two most preferred colleges. When they take either the SAT or ACT as high school seniors, they are asked to name up to six of their most preferred colleges. For this particular study, the PSAT administered in

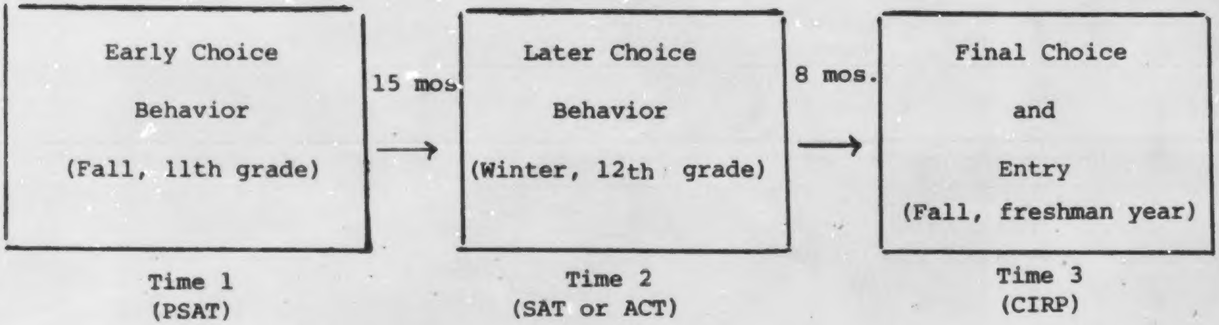
Early Choice
Behavior
(Fall, 11th grade)
15 mos.
Later Choice
Behavior
(Winter, 12th grade)
8 mos.
Final Choice
and
Entry
(Fall, freshman year)
Time 1
(PSAT)
Time 2
(SAT or ACT)
Time 3
(CIRP)

Fig. 1. Three time points for the longitudinal study of student choice.

October of 1973 and the SAT or ACT administered to the same students during the academic year 1974-1975 were utilized. The third time period for data collection was the time of actual entry to postsecondary education in the fall of 1975. The data collection mechanism here was the Cooperative Institutional Research Program (CIRP) conducted jointly by The American Council on Education and the University of California at Los Angeles. The questionnaire completed by these entering freshmen also inquired about the student's three most-preferred institutions other than the one entered.

This study thus makes it possible to follow students longitudinally from early in the eleventh grade, through the twelfth grade (when college applications are made), to the point of actual entry. The bulk of the analyses summarized in this report focus on changes in student choice behavior during this two-year period.

Purposes of the Study

One of the main objectives of federal student aid programs is to broaden the range of institutional options available to prospective postsecondary students. Whether these programs involve direct grants, loans, work-study opportunities, or other types of aid, the federal government and most state governments are regularly faced with a necessity of establishing adequate funding levels for these programs and with recommending the elimination or addition of specific support programs. One of the main purposes of this study is thus to provide an empirical basis for developing financial aid policy by showing how various types of programs are related to student choice.

The eleventh grade in high school is a time when specific institutional preferences are highly tentative and subject to considerable change as the student approaches the time when final decisions concerning institutional applications are made. This beginning point is probably also a time when many students and parents first begin to seek out information about financial aid opportunities. While many students probably have little knowledge of specific aid programs when they begin their junior year (i.e., when they take the PSAT-NMSQT), they probably have acquired much more knowledge of such programs by the time they take the college admissions tests (SAT or ACT) one year later. This project provides information on whether or not different types of state and federal aid programs are associated with differential changes in institutional choice between the junior and senior years. It also aims to show whether these differential senior choices are associated with significant changes in the type of institution actually entered one year later. Further, it shows if these changes between the eleventh grade and institutional entry are different for students of differing ethnic background, sex, ability, or parental income level. Because of the large size and national scope of the data used in this study, the results provide an opportunity to compare longitudinal changes in student choice behavior among states with contrasting types of financial aid programs.

Another major purpose of this project is to identify applicant and institutional characteristics that affect the type of institution to which students apply. The study thus assesses the interaction between *student* characteristics (ability, parental income, race, and so forth) and relevant *institutional* characteristics (financial aid policies, admissions practices, tuition levels, and so forth). Whether or not individual applicants are accepted by institutions and offered financial aid is dependent on a number of factors: institutional resources, student financial need, special student abilities or talents, and student demographic characteristics. The project provides an assessment of the relative importance of these factors in institutional decision making.

A related question is how institutions "package" financial aid offers for particular students. Is the relative concentration in the package of, say, scholarship or grant funds dependent on particular characteristics of the applicant? Are the criteria used in allocating financial aid resources systematically related to other characteristics of institutions such as type of control, admissions policy, size, and other financial attributes?

In short, the major purpose of this project is to provide a detailed analysis of factors leading up to the final interface between institutions and students. By permitting an assessment of the relative impact of financial aid programs and policies on this process, the study provides a means of simulating the likely effects of alternative financial aid policies and programs on the distribution of student types by institutional types. The major features of the study design are covered in the final four sections of this chapter: Data Sources, Dependent Variables, Independent Variables, and the Analysis Plan.

Data Sources

The principal technical problem in generating the data for this study was to merge data from four seperately administered testing programs: the PSAT, the SAT, the ACT, and the CIRP. Considering that three of these testing programs (PSAT, ACT, and SAT) involve more than 1,000,000 students each and the CIRP more than 300,000 students, the magnitude of the data processing task was perhaps unparelled in the history of educational research. Problems of matching individual subjects were compounded by the fact that only a minority of subjects reported social security numbers at the time they took the tests or completed the questionnares. This lack of unique identifying numbers necessitated the use of a highly complex procedure for matching individuals which employed the student's sex, day of birth, name, and address. Details of the matching and merging procedure are provided in Appendix A.

One problem with the two twelfth grade testings (SAT and ACT) is that they used different tests and different questionnaires to collect similar demographic data from students. Since most students who take one of these tests do not take the other, the investigator is forced either to perform two different sets of analysis or, if possible, to convert the information on the two tests to a common form which will permit the use of a combined sample. Since students who take the SAT and ACT come from very different populations,* converting the two assessments to a common form was considered by far the more desirable alternative. Fortunately, a substantial number of students had taken both the SAT and ACT, thus permitting us to convert the tests as well as a number of questionnaire items to a common format. Perhaps most important was the fact the both assessments asked the student to name up to six most-preferred institutions to which they wanted their test scores sent. Both assessments, in other words, provide a comparable measure of student choice as of the senior year in high school. For details of how the test scores and questionnaire items were converted to a common form to be used in a combined analysis, see Appendix B.

The match-merge procedure (see Appendix A) produced longitudinal data for three different subsamples of students:

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*The SAT is heavily used in the Northeast, and to a lesser extent, in the West, whereas the ACT is heavily used in the Midwest. The SAT is also used most frequently by private institutions and by four-year colleges, whereas the ACT is used more often in public community colleges and four-year colleges.

11th grade-12th grade	724,460
12th grade-entering freshmen	175,152
11th grade-12th grade-entering freshmen	111,579

To obtain population estimates from these various longitudinal samples, a series of complex weighting procedures were employed to compensate for certain biases in each sample. For the 11th-12th grade longitudinal file, weights were developed to make the data representative of the population of 11th graders in the United States in the fall of 1973. The weighting procedures for this file used data from the U.S. Census to compensate for biases by state, sex, race, and parental income of the students. For the 12th grade-entering freshmen file, weights were designed to make the sample representative of first time, full time students entering postsecondary institutions in the fall of 1975. These weights compensated for biases in student's sex, high school grades, year of graduation from high school, and type of institution entered. For details of the weighting procedures, see Appendices C (11th grade-12th grade file) and D (12th grade-entering freshmen file).

Dependent Variables

The study employed two sets of dependent variables: one set from the 12th grade data and the other from the entering freshmen data. The basic purpose of these dependent variables is to describe the student's choice behavior at each of these two points in time. Since "choice" really refers to the type of institution chosen by the student, these various measures are, in effect, descriptions of the institution(s) selected by the student at each time point.

Choice behavior in the 12th grade was described in terms of 21 measures (Table 1). Note that these dependent variables are in three categories.

Table 1

Dependent Variables: 12th grade choices

Consistency in College Choice: 11th to 12th grade

1. First choice same in 11th and 12th grades
2. First 11th grade choice among 12th grade choices
3. Either 11th grade choice among 12th grade choices

Characteristics of 12th Grade Choices (up to 6)

4. Mean tuition and fees
5. Mean size
6. Mean selectivity (SAT V+M of entering freshmen)
7. Mean distance from home

Characteristics of First 12th Grade Choice

8. Two-year college
9. University
10. Privately controlled
11. Religiously affiliated
12. Predominantly black
13. Selective public university (SAT V+M above 1049)
14. Highly selective private institution (SAT V+M above1174)
15. Nonselective private institution (SAT V+M below 1024)
16. Tuition and fees
17. Size
18. Selectivity
19. Prestige*
20. Distance from home
21. Located in home state

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*A combination of size and selectivity (see Appendix C).

The first category--consistency in college choice between 11th and 12th grade--attempts to determine if the student followed through on early preferences. If one of the objectives of financial aid programs is to enable students to attend the college of their choice, an effective program would be one which enables the students to maintain their choices over time. The second category shown in Table 1 describes the student's entire choice set as expressed in the 12th grade (SAT or ACT). These are the institutions to which the student wants his or her test scores sent and which are presumably the student's most preferred institutions. For those students who pick only one institution, the "mean" equals the value for that institution. The third category shown in Table 1 describes the characteristics of the student's most preferred (first choice) college as expressed in the 12th grade.

The categories in Table 2 are similar to those in Table 1, except that consistency in college choice is measured over two time intervals: 11th grade to college entry and 12th grade to college entry. It should also be noted that the CIRP freshman questionnaire asked the student to report his or her most preferred alternative colleges (up to three) to which applications were made. Students indicated not only whether they were accepted to these alternative colleges, but also whether they were offered financial aid and, if so, how much and of what kind (see Chapter 8).

A rationale for including the measures of consistency in choice behavior over time has already been presented (above). Brief explanations for inclusion of the other measures of choice behavior are presented below.*

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*Much of the evidence concerning the impact of these different types of colleges has been drawn from recent longitudinal research on college students (Astin 1975, 1977; Chickering, 1974).

Table 2

Dependent Variables: College Entered

Consistency in College Choice: 11th grade to college entry

1. Applied to first 11th grade choice
2. Accepted by first 11th grade choice
3. Enrolled in first 11th grade choice
4. Applied to either 11th grade choice
5. Accepted by either 11th grade choice
6. Enrolled in either 11th grade choice

Consistency in College Choice: 12th grade to college entry

7. Applied to first 12th grade choice
8. Enrolled in first 12th grade choice
9. Applied to any 12th grade choice
10. Accepted at any 12th grade choice
11. Enrolled in any 12th grade choice

Characteristics of Most Preferred Colleges Applied to (up to 4)*

12. Mean tuition and fees
13. Mean size
14. Mean selectivity (SAT V+M of entering freshmen)
15. Mean distance from home

Characteristics of College Entered

16. Two-year college
17. University
18. Privately controlled
19. Religiously affiliated
20. Predominantly black

(continued)

Table 2 (con't)

21. Selective public university (SAT V+M above1049)
22. Highly selective private institution (SAT V+M above1174)
23. Nonselective private institution (SAT V+M above1024)
24. Tuition and fees
25. Size
26. Selectivity
27. Prestige**
28. Distance from home
29. Located in home state

---

*Includes the college actually entered plus up to three most preferred alternatives as reported on the CIRP freshmen questionnaire.

**A combination of size and selectivity (see Appendix C).

Two-year colleges. While the community college provides important services to adults, part-time students, and those pursuing technical courses not offered by four-year institutions, the traditional eighteen-year-old entering college directly from secondary school has a poorer chance of persisting to the baccalaureate at a two-year than at a four-year college. As a consequence, the student's chances of implementing career plans in fields requiring baccalaureate training are substantially reduced at a two-year college.

Universities. Universities generally offer a wider variety of courses than other institutions and frequently have superior facilities. Attending a private university increases the student's chances of persistence and of gaining admission to medical school.

Private Institutions. For many educators, the notion of "expanding choice" through financial aid generally means enabling students to attend private rather than public institutions. The research evidence suggests that private institutions foster greater student change than public institutions in almost all areas of personal growth. Students at private institutions generally become more involved in their educational programs, are more satisfied with their faculty, and are more likely to implement career plans successfully upon graduation.

Religious institutions. This sub-category of private institutions represents a highly specialized choice option, although their enrollments have been declining in recent years.

Predominantly black institutions. Since these institutions are attended primarily by Black students (Astin, King, and Richardson, 1977), their significance applies primarily to the college-bound Black student. Although the proportion of Black college students who enroll in such institutions has declined substantially during the past decade, the student's chances of persisting at such an institution are greater than at a predominantly White institution.

Selective public universities. These institutions (the universities of California, Michigan, and Washington are examples) represent one of the best "buys" in postsecondary education. Students enjoy most of the educational and career advantages of attending a prestigious institution at minimum cost.

Highly selective private institutions. Research indicates that the impact of college attendance is maximized at this type of institution. In addition, having a degree from such institutions enhances the subsequent occupational and career development of the graduate.

Nonselective private institutions. These institutions are perhaps the single group most threatened by the massive expansion of public higher education (Astin and Lee, 1971). In a sense, they have the most to gain from financial aid policies that encourage students to attend private institutions. Although these institutions compete primarily with nonselective public institutions for students, research evidence (Astin and Lee, 1971) suggests that the educational benefits to students are just as great and probably greater at such institutions than at competing public institutions of similar selectivity.

Tuition and fees. One obstacle to institutional choice is the relatively high cost of certain institutions (mostly private). An effective financial aid program would presumably enable students to attend higher cost institutions than would be possible without the program.

Size. There are benefits to attending both large and small institutions, although the benefits of smallness seem to outweigh those of bigness. Large institutions offer a wider variety of courses, but small institutions foster greater student participation in extracurricular activities and greater interaction between students and faculty. Since raw enrollments provide a measure of size that is difficult to utilize becuase it is highly skewed, institutional FTE enrollments were recoded into a nine category variable (less than 250...20,000 or more) for purposes of analyses. See Appendix D for details.

Selectivity. Some of the advantages of attending a highly selective institution have already been noted (above). Long-term studies of college graduates (e.g., Solmon, 1974) suggests that institutional selectivity enhances occupational prestige and earnings in later life. The measure, which was based on estimates of the mean SAT V+M scores of entering freshmen (or the equivalent ACT mean converted to SAT)(Astin and Henson, 1977), was recoded into a nine category variable (1=less than 775...9=1,300 or higher). See Appendix D for details.

Prestige. This measure, which is based on a theory of institutional reputation and attractiveness (Astin and Lee, 1971), utilizes a combination of size and selectivity. Selectivity receives substantially more weight than size. The variable is included as a measure of choice because institutional prestige is likely to have far-reaching impact on the student's subsequent career development. See Appendix D for details.

Distance from home. The advantages of going away from home to attend college have been documented in a number of studies: Residents not only show greater changes in personality and attitudes and become more involved in campus life than commuters, but they are more likely to persist for four years. Increased persistence, in turn, maximizes the chances of implementing career plans. Since financial constraints may cause many students to attend college near home, one positive impact of a financial aid program would be to enable needy students to go away from home and to live on campus, particularly during the freshman year. Since it is not possible to determine from the 11th and 12th grade surveys whether the student intended to live on campus at each of the chosen colleges, distance from home is employed here as a kind of surrogate measure for commuter-resident status. The actual distances from the student's home to each college choice were calculated as the distance between the home zip code and the zip code of the college, with each distance converted to a log function in order to reduce skewness. See Appendix C for details.

Located in home state. One possible impact of federal aid programs is to facilitate or inhibit migration of students across state lines. It is also of interest to determine whether particular types of state aid programs differentially affect such migration.

Independent Variables

Student choice (the dependent variable for this study) can be affected by a large number of antecedent or independent variables. The various data files described above yielded information on more than 100 different independent variables which can be grouped into three major categories: student personal characteristics, characteristics of the higher education environment, and financial aid variables.

Student personal characteristics

Table 3 lists 58 different measures of student characteristics derived from the various survey instruments and tests. Note that these measures incorporate most of the principal student attributes that are thought to affect the kinds of colleges students choose: sex, race, ability, family education and income, high school grades, type of high school attended, and high school curriculum. The list also includes information on the student's extracurricular activities in high school, plans for extracurricular activities in college, need for special remedial help, and plans for advanced placement.

Table 3

Student Personal Characteristics

	Characteristic	Range low	Range high	source *
1.	Sex	1 (male)	2 (female)	CIRP
2.	Age	1 (16 or less)	10 (30 or more)	CIRP
3.	Race: white	1 (no)	2 (yes)	CIRP
4.	Race: black	1 (no)	2 (yes)	CIRP
5.	Race: American Indian	1 (no)	2 (yes)	CIRP
6.	Race: Oriental	1 (no)	2 (yes)	CIRP
7.	Race: Chicano	1 (no)	2 (yes)	CIRP
8.	Race: Puerto-Rican	1 (no)	2 (yes)	CIRP
9.	Father's education	1 (grammar school)	9 (graduate degree)	CIRP
10.	Mother's education	1 (grammar school)	9 (graduate degree)	CIRP
11.	Verbal aptitude	200	800	SAT or ACT
12.	Mathematical aptitude	200	800	SAT or ACT
13.	High school grades	60	99	SAT or ACT
14.	Parental income	1 (less than $3,000)	8 ($20,000 or more)	SAT or ACT
15.	English spoken at home	1 (no)	2 (yes)	SAT or ACT
16.	Number of other dependent children	1 (none)	7 (6 or more)	SAT or ACT
17.	Type of high school	1 (public)	2 (private)	SAT or ACT
18.	High school class size	1 (less than 100)	2 (100 or more)	SAT or ACT
19.	High school program	1 (college prep)	2 (other)	SAT or ACT
20.	High school activities: Athletics	1 (no)	2 (yes)	SAT or ACT
21.	High school activities: Ethnic or racial club	1 (no)	2 (yes)	SAT or ACT
22.	High school activities: Journalism, debate, drama	1 (no)	2 (yes)	SAT or ACT
23.	High school activities: music	1 (no)	2 (yes)	SAT or ACT
24.	High school activities: pre-professional	1 (no)	2 (yes)	SAT or ACT
25.	High school activities: religious	1 (no)	2 (yes)	SAT or ACT
26.	High school activities: community	1 (no)	2 (yes)	SAT or ACT
27.	High school activities: student government	1 (no)	2 (yes)	SAT or ACT
28.	Years of English	1 (none)	5 (more than 3)	SAT or ACT
29.	Years of mathematics	1 (none)	5 (more than 3)	SAT or ACT
30.	Years of foreign language	1 (none)	5 (more than 3)	SAT or ACT
31.	Years of natural science	1 (none)	5 (more than 3)	SAT or ACT
32.	Years of social studies	1 (none)	5 (more than 3)	SAT or ACT
33.	Planning doctoral or professional degree	1 (no)	2 (yes)	SAT or ACT
34.	Planning vocational degree	1 (no)	2 (yes)	SAT or ACT

Table 3 (con't)

Characteristic	Range		source
	low	high	
35. Need help in vocational plans	1 (no)	2 (yes)	SAT or ACT
36. Need help in mathematics	1 (no)	2 (yes)	SAT or ACT
37. Need help in personal counseling	1 (no)	2 (yes)	SAT or ACT
38. Need help in reading	1 (no)	2 (yes)	SAT or ACT
39. Need help in study skills	1 (no)	2 (yes)	SAT or ACT
40. Need help in writing	1 (no)	2 (yes)	SAT or ACT
41. College plans: athletics	1 (no)	2 (yes)	SAT or ACT
42. College plans: ethnic or racial club	1 (no)	2 (yes)	SAT or ACT
43. College plans: journalism, debate, drama	1 (no)	2 (yes)	SAT or ACT
44. College plans: music	1 (no)	2 (yes)	SAT or ACT
45. College plans: preprofessional	1 (no)	2 (yes)	SAT or ACT
46. College plans: religious	1 (no)	2 (yes)	SAT or ACT
47. College plans: community service	1 (no)	2 (yes)	SAT or ACT
48. College plans: student government	1 (no)	2 (yes)	SAT or ACT
49. Plan advanced placement: English	1 (no)	2 (yes)	SAT or ACT
50. Plan advanced placement: mathematics	1 (no)	2 (yes)	SAT or ACT
51. Plan advanced placement: foreign language	1 (no)	2 (yes)	SAT or ACT
52. Plan advanced placement: natural science	1 (no)	2 (yes)	SAT or ACT
53. Plan to live away from home	1 (no)	2 (yes)	SAT or ACT
54. Rank in class	1 (bottom quarter)	3 (top quarter)	SAT or ACT
55. PSAT mathematical aptitude	20	80	PSAT
56. PSAT mathematical aptitude	20	80	PSAT
57. Want to be considered for NSFNSS	1 (no)	2 (yes)	PSAT
58. High school grades	1 (no)	2 (yes)	PSAT

*See Appendices C and D for details of variable coding.

Another important category of student personal characteristics is early choice behavior. Clearly, if there is any consistency in student choice behavior over time, the student's 12th grade choices should be influenced by 11th grade choices, and the type of college ultimately entered should be related to both 11th and 12th grade choices. Table 4 shows 18 early choice measures (independent variables) which are identical to many of the final choice (dependent) variables shown earlier (Table 1). These measures, coupled with the measures shown in Table 2, provide a means of measuring change in choice behavior over three time periods: 11th to 12th grade, 11th grade to college entry, and 12th grade to college entry. Note that the 12th grade choice measures constitute independent variables for analysis of factors influencing the type of college entered, but become dependent variables in studies of factors influencing change in choice between 11th and 12th grade.

The higher education environment

It is widely believed that the proximity of a given type of institution will be a major factor in any given student's decision to attend that type of institution. Indeed, one of the principal policy objectives behind the massive expansion of community colleges during the past 20 years has been to provide low-cost higher education opportunities within reasonable commuting distance of most prospective students. How the proximity of various types of institutions affect the student's choice among alternative types, however, is not well understood. Accordingly, 13 different measures of the student's local higher education environment were constructed (Table 5). Since it was assumed that differences in distances greater than 1,000 miles from the students home would have only minor effects on choice, all distances greater than 1,000 miles were recorded as a 999 in order to conserve tape space. Since the availability of various types of public

Table 4

Independent Variables: 11th and 12th grade choices

First choice institution

1. Two-year college
2. University
3. Privately controlled
4. Religiously affiliated
5. Predominantly black
6. Selective public university (SAT V + M of entering freshmen above 1049)
7. Highly selective private institution (SAT V + M of entering freshman above 1174)
8. Nonselective private institution (SAT V + M of entering freshman below 1024)
9. Tuition and fees
10. Size
11. Selectivity
12. Prestige[*]
13. Distance from home
14. Located in home state

Mean of all choices

15. Tuition and fees
16. Size
17. Selectivity (SAT V + M of entering freshmen)
18. Distance from home

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[*] A combination of size and selectivity (see Appendix C).

Table 5

Independent Variables:
The Higher Education Environment

Variable	Range Low	Range High
1. Distance (in miles) to nearest public two-year college	1	999
2. Distance to nearest public four-year college	1	999
3. Distance to nearest low selectivity public university	1	999
4. Distance to nearest high selectivity public university	1	999
5. Distance to nearest public Black college	1	999
6. Distance to nearest private Black college	1	999
7. Distance to nearest low selectivity Catholic college	1	999
8. Distance to nearest high selectivity Catholic college	1	999
9. Number of low selectivity Protestant colleges within 25 miles	1	9
10. Number of high selectivity Protestant colleges within 25 miles	1	9
11. Number of low selectivity private colleges within 25 miles	1	9
12. Number of medium selectivity private colleges within 25 miles	1	9
13. Number of high selectivity private colleges within 25 miles	1	9

NOTE: All distances are measured as mileage between the student's home zip code and the college's zip code. For exact cutting points for different selectivity levels, see Appendix C.

institutions would be expected to affect decision making primarily within state boundaries, distance measures involving public institutions were confined to those institution within the student's home state. Measures involving private institutions, on the other hand, included institutions both in the home state as well as in all contiguious states. Thus if a particular type of private institution did not exist within the student's home state or in any contigious state, the distance measure was set at 999. Similarly, if a particular type of public institution did not exist within the student's home state, the distance was also set at 999.

Note that some of the measures involved mileage distances, whereas others involve counts of particular institutional types within a radius of 25 miles. Decisions about which type of measure to employ were based on preliminary tabulations involving two large states with contrasting types of higher education systems (California and Massachusetts). For details, see Appendix D (note 66).

Financial aid measures

This category of independent variables includes the principal independent variables of interest in the current study (Table 6). The first set of variables (1-10) comprises an assessment of the individual student's financial aid and aid offers. The special analysis of the impact of the BEOG program will be presented in Chapter 7. The other individual aid measures (3-10) will be utilized in a special analysis of the effects of institutional practices (Chapter 8). The state level measures constitute the principal basis for assessing the impact of various federal and state programs. Since states varied widely in the magnitude of their own aid programs as well as in the degree to which they utilized various federal programs in 1974 and 1975, these state variations provide a kind of "natural experiment" to assess the impact of federal and state programs. In addition

Table 6

Independent Variables: Financial Aid Measures

Student Level Measures*

1. Hold BEOG grant (2=yes; 1=no)
2. Amount of BEOG (4=more than $999; 1=none)
3. Total aid package dollars (all sources)
4. Dollars of grant money (all sources)
5. Dollars of work-study money (all sources)
6. Dollars of loan money (all sources)
7. Total package (dollars) offered by next-most-preferred institution
8. Grant offer (dollars) from next-most-preferred institution
9. Work-study offer from next-most-preferred institution
10. Loan offer from next-most-preferred institution

State Level Measures**

11-23. Federal aid:

NDSL dollars per student
CWSP dollars per student
SEOG dollars per student
GSL dollars per student
BEOG dollars per student
SSIG dollars per student
CWSP dollars as a percent of total aid
Grant dollars as a percent of total aid
Loan dollars as a percent of total aid
Total grant dollars per student
Total loan dollars per student
Total federal aid per student
Total federal aid dollars

24-26. State aid:

State aid dollars per student
State aid dollars per recipient
State aid recipients/state enrollment

27. Total federal-state aid dollars per student

28-29. Other state measures:

Average weekly earnings per capita
Unemployment rate

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*Source: 1975 CIRP survey (see Appendix D).

**Source: See note 75 (Appendix E).

to these measures of state characteristics, special analysis of the 11th-12th grade longitudinal data also included dummy variables for each state (n = 51)* to determine if particular states showed effects on student choice not accounted for by the measured characteristics of their financial aid programs.

Other measures

To provide a more stringent test of the impact of state financial aid program characteristics (Table 6), two additional measures of state characteristics were employed: the unemployment rate and the per capita monthly income. The analysis plan (see below) involved first controlling these two state characteristics before assessing the impact of state financial aid program characteristics. The rationale for this decision was simply that student choice might well be affected by local labor market conditions in the state and that these same labor market factors might influence state financial aid programs. The objective was thus to assess the impact of state financial aid programs independent of labor market conditions.

Another special independent variable consisted of the interaction between student ability and selectivity (i.e., the product of the student's composite ability score as measured by the SAT or ACT and the selectivity of his or her college choice). (The variances of these two variables were first equated before their products were computed.) The purpose of this interaction term was to introduce a measure of "realism" in the students' choice measures. For example, if a student of low ability prefers a highly selective institution, the predictive weight assigned to the selectivity of that choice should probably be less than if the student was of high ability. Conversely, if a high ability student picks a nonselective institution, the predictive weight for ability should probably be less than if the student was of low ability. (Note that the "weight" here is determined by how far the person's "realism"score deviates from the mean score; the maximum deviation would occur when a low ability student

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*Includes the District of Columbia.

chooses a nonselective institution or when a high ability student picks a selective institution.)
The rationale here is that students tend to gravitate toward institutions at their own ability levels. Thus, if the student's ability and the selectivity level of the most preferred institution match, additional weight should be applied to both measures. The ability-selectivity interaction term provides an opportunity to determine if such weight contributes to the prediction.

Analysis Plan

Two major sets of analyses were employed to assess the impact of financial aid programs and practices on student choice. The first set examined the impact of federal and state financial aid programs; the second set examined the impact of institutional aid practices. Since quite different analysis plans were needed for these two problem areas, separate descriptions of each are provided below.

Impact of aid programs

Since the student's choice of a postsecondary institution can be affected by a number of factors other than financial aid programs, the impact of aid programs is difficult to assess unless these other factors are also taken into account. For example, it is reasonable to assume that the student's inclination to attend a community college might be affected by the geographic proximity of such colleges to the student's home. Thus, students who live in states with extensive community college systems might be more likely to enroll in community colleges, simply because they are more numerous and more accessable than community colleges in other states. If it also happens that states with extensive community college systems tend to utilize certain federal programs more than others (say, loan programs rather than grant programs), failure to control for the accessability of community colleges will produce a spurious "effect" of loan programs on the student's choice of a community college. In other words, controlling for the accessability of community colleges and other types of institutions provides a less biased estimate of the effects of state-level aid measures on student choice.

It is also important to control for student characteristics. Some states, for example, have relatively large proportions of students from disadvantaged minority groups. It seems reasonable to assume that such students will be more inclined than white students to opt for less costly institutions and other specialized types of institutions (Black colleges, for example). If it also happens that these same states have financial aid programs that differ from the programs of states with fewer minority students, failure to control for the student's ethnic group will produce a spurious correlation between the state aid program and the students' choice of low-cost and possibly other types of institutions.

In summary, obtaining a relatively unbiased estimate of the effects of any particular financial aid program first requires that a number of other, potentially biasing personal and environmental variables be controlled. Thus, the principal objective of the analysis plan was to examine the impact of various financial aid variables after a number of student personal characteristics and attributes of the student's local higher education environment were controlled.

The main statistical technique employed to examine the impact of financial aid programs was stepwise linear multiple regression analysis. Although a variety of other analytic techniques are possible, stepwise regression is a highly robust technique which permits the investigator to analyze simultaneously the relationships among a large number of variables at relatively low cost and with a relatively high degree of precision. Regression analyses were carried out in two stages. In the first stage, student variables (early choices, sex, ability, race, socioeconomic status, and so forth) and geographic variables (accessability of various types of institutions) were permitted to enter the regression equation until no additional student or geographic variable was capable of producing a significant ($p < .05$) reduction in the residual sum of squares of the dependent (choice) variable. In the second stage, financial aid variables (primarily state characteristics) were permitted to enter the equation. In effect, this two-stage procedure estimates the impact of financial aid variables on changes in students' college choices after the impact of other student characteristics and geographic factors on these changes has first been taken into account.

A separate two-stage stepwise regression analysis was carried out with each of the dependent variables listed in Tables 1 and 2. Since the dependent variables listed in these two tables cover different choice points (12th grade versus college actually entered), the analyses required the use of separate samples (11th grade-12th grade versus 11th grade-12th grade-college entry). Furthermore, in order to investigate possible interaction effects involving the student's sex, ability, race, and family income, each of these two longitudinal samples was subdivided into fifteen different subgroups. There were two sex subgroups (men and women), four ability subgroups (very high, high, middle, and low), three parental income subgroups (high, middle, and low),*and five racial subgroups (White, Black, American Indian, Oriental, and Spanish). To conserve on computing costs, an attempt was made to sample systematically within each of these subgroups so that a subsample of approximately 10,000 students would be available for analysis. If a particular subgroup involved less than 10,000 students, all students in that subgroup were selected for the analysis. Table 7 shows each of the 15 subgoups selected from the two major longitudinal files. Subgroups with fewer than

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*The three parental income categories were subsequently increased to four by adding another level at the high end of the distribution.

Table 7

Sample Subgroups for Stepwise Regression Analyses

Subgroup	Subsample Size 11-12 grade file	 11-12-freshman file
All students	19,927	19,220
By sex		
men	11,860	13,742
women	10,438	14,147
By ability		
very high (SAT composite above 1190)	11,100	10,634
high (SAT composite between 1000 and 1190)	9,683	12,522
middle (SAT composite between 800 and 999)	10,284	11,992
low (SAT composite below 800)	11,185	13,416
By parental income*		
very high (above $20,000)	6,804	7,695
high (between $15,000 and $19,999)	3,828	4,208
middle (between $7,500 and $14,999)	10,667	12,496
low (below $7,500)	10,205	6,869
By race or ethnicity		
White	11,106	12,210
Black	9,374	6,076
American-Indian	1,688	200
Oriental	8,652	1,264
Spanish	8,315	1,072

*Note: In early analyses high and very high income levels were combined.

10,000 are limited mainly to the various ethnic minorities.*

One limitation in using the 11th grade data from the PSAT administration is that more than 40% of the students who take the PSAT do not provide preliminary college choices. Since 11th grade choices would clearly be expected to carry substantial weight in the prediction both of 12th grade choices and of the college actually entered, one would expect a vastly different regression solution for students with no 11th grade choices as contrasted to those who report 11th grade choices. For this reason, all of the regression analyses involving 11th grade data were conducted twice: once for those who reported 11th grade choices and again for those who did not.

Additional analyses were also necessary for all regressions in which the characteristics of the college actually entered (CIRP) served as the dependent variables. Three different types of solutions are actually possible for these analyses. The first involves only the 11th grade (PSAT) data and examines change over the two-year interval between fall of the 11th grade and fall of the freshman year. In effect, this first type of analysis ignores the 12th grade data. Presumably, one would expect to find the largest impacts of financial aid in this first set of analyses. The second type of analysis uses both 11th and 12th grade data as independent variables. This analysis also involves a two-year interval, although the effects of 11th grade variables are minimized to the extent that they are reflected in 12th grade variables. The third type, which ignores 11th grade data and uses only 12th grade data as independent variables, assesses changes between the 12th grade and college entry.

Still another set of analyses was carried out to assess the impact of specific state programs. In these analyses each of the 51 states was represented as a separate dichotomous ("dummy") variable in the regressions. To minimize the effect of any one state in the analysis, a subsample was selected such that approximately 1,000 students from each state were included. The need for at least 1,000 students per state and for adequate representativeness within states limited these analyses to the 11th grade-12th grade longitudinal data. Although this analysis involved the same dependent variables in the 11th grade-12th grade analysis described above, no analyses by sex, race, ability, or income were performed.

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*Parental income originally had only three categories. Subsequently the top category was subdivided into high and very high groups. Thus, these two groups are only about half the size of the others.

Because of the very large number of independent variables available for each analysis, some preliminary regressions were carried out to screen out independent variables that carried little or no predictive weight. These preliminary regressions were done with the nonselected ("total") student sample from each of the major longitudinal files. Variables entering these regressions with significant weights were retained for the subgroup analyses, whereas variables that failed to enter were excluded. Most of the excluded variables concerned the students' expressed needs for remedial help (variables 35-40 from Table 3), plans for college extracurricular activities (variables 41-48), high school activities (variables 20-27), and high school courses taken (variables 28-32). These variables were excluded from the subgroup regressions to cut down on computational costs.

The various analyses are summarized in Table 8. When each dependent variable, each file, each subgroup, and repeated analyses (with and without early choice variables) are considered, there are a total of 2,535 separate stepwise regression analyses. Needless to say, proper execution of this substantial data processing task required a good deal of planning and a considerable amount of time to scrutinize the various regression solutions. Since it is clearly impossible to present detailed results of all these analyses in a coherent way, only the highlights will be presented in subsequent chapters. Persons interested in results of specific analyses are advised to contact the investigators directly.

Table 8

Regression Analyses for Assessing the Impact of Federal and State Financial Aid Programs

File	Dependent Variables	Subgroups	Repeat with and Without Early Choices?	Total Regressions
11th grade - 12th grade	21	16	yes	624
11th grade - 12th grade with 50 states + D.C.	21	1	yes	39
11th grade - freshman	29	16	yes	752
12th grade - freshman	23	16	no	368
11th grade - 12th grade - freshman	29	16	yes	752
All analyses	-	-	-	2,536

A final technical consideration was the possible effect on the regression results of measurement errors in the independent variables. Since error of measurement in multiple partial regression analyses can seriously bias the estimates of financial aid effects on student choice, adjustments for these errors were made in most of the student characteristics listed in Table 3 (above). The standard "correction for attenuation" was made in all correlation coefficients involving variables for which reliability estimates were available. (For a complete discussion of the technical and inferential issues involved in such corrections and for a detailed description of how the reliability estimates were determined for each student's personal characteristics, see Appendix B.)

Impact of Aid Offers

A student's final decision about what college to attend may be influenced by the type and amount of financial aid contained in the packages offered by competing institutions. Indeed, the possible effects of real offers on any given student are probably much greater than the possible effects of any new aid programs, simply because the institutional offer is a concrete and specific financial incentive. Thus, while a student's choice might be influenced by a knowledge that certain state or federal programs are in existence, these programs probably take on greater significance in the final choice process which they become part of specific aid packages offered by competing institutions.

Studying the impact of aid offers on student choice presents a number of methodological problems. To begin with, students must first be accepted for admission before specific aid offers are even made. In addition, students must be accepted by at least two institutions in order to study the comparative impact of competing offers. (This latter requirement eliminates most students, since only about half of all students apply to more than one institution.) Finally, since the student's final decision may be influenced by institutional differences other than their aid offers (i.e. one college may be more selective than the other), the effects of competing aid offers cannot be assessed without first taking into account the possible effects of differences in other institutional characteristics.

How is it possible to assess the impact of competing financial aid offers while controlling for other characteristics of the institutions making the offers? Perhaps the best way to approach this problem is to imagine a group of students who have been accepted by institutions that are identical in all respects except for their offers of financial aid. Under these conditions the unique effects of competing aid offers could be estimated. Accordingly, in our analysis we attempted to simulate, by means of matching techniques and multivariate analyses, a situation where competing institutions were identical in all respects except their aid offers.

Two types of analyses were employed to simulate these conditions. In one analysis students were selected so as to match competing institutions on all characteristics. The other type of analysis attempted to match institutions on certain characteristics and to control other institutional differences by statistical means.

The first analysis utilized only data from the CIRP survey of entering freshmen. It will be recalled that this survey asked students to indicate their most-preferred institutions (up to three) other than the one they actually entered in the fall of 1975. For these purposes the only students used were those who were accepted by at least one other institution and offered aid both by that institution and by the one entered. From this group we selected all students whose most preferred alternate institution was also among the CIRP entering freshman sample. Next, frequency distributions for possible pairs (institution entered and most preferred alternate) were obtained. Note that for any pair of institutions (A and B), two counts are available: The number picking A first and B second, and the number picking B first and A second. The smaller of these two counts was used as the basis for selecting the final sample of students for this analysis. An equal number of students was selected randomly from the opposite pair for inclusion in final analysis sample.

These rather elaborate sampling procedures can be better illustrated with a concrete example. Suppose that our sample included 25 entering freshmen at UCLA who gave the University of Southern California (USC) as their second choice institution and who were offered financial aid by both institutions. Let us assume that there were 10 entering freshmen at USC who gave UCLA as their second choice and who were offered financial aid by both institutions. These 10 subjects would be retained for the final analysis, together with 10 randomly selected subjects from the 25 entering UCLA. Note that these 20 subjects, considered as a group, have institutions of entry and most-preferred alternates that are perfectly matched. In order to reduce the effects of any institutional pair on the data analysis, no more than 30 subjects (15A-B and 15B-A) from any pair were included. A total of 58 different pairs of institutions, representing a total of 566 subjects were retained for this particular analysis.

A second type of analysis was undertaken to examine the effects of financial aid offers on changes in institutional preference between the senior year in high school and college entry. The dependent variable for these analyses was whether or not the student actually enrolled in the first choice college as expressed in the 12th grade survey. For this purpose four subfiles were developed from the longitudinal 12th grade-entering freshmen data. Subjects were selected for these subfiles if they satisfied the following criteria: they were accepted by at least one alternative institution (as reported on the CIRP entering freshmen form); they were offered financial aid by both their entry institution and their next-most-preferred alternative; they listed at least two institutions when they took the ACT or SAT in 12th grade; their two most-preferred institutions in the 12th grade were the same as their entering institution and next-most-preferred alternate (but not necessarily in the same order). In short, these subjects included all students (a) whose most preferred institutions in the 12th grade were also their most preferred two institutions at the time of application,(b) who were accepted and offered financial aid by both institutions; and (c) who enrolled at one of the two.

Subjects who satisfied these criteria were divided into four subfiles on the basis of their two most preferred 12th grade choices, as follows: both public (N = 535), both private (N = 905), first public and second private (N =337), and first private, second public (N =382). Separate analyses of these four files were conducted on the assumption that the effects of competing aid offers might depend on the relative costs of the two institutions.

It will be noted that these four subfiles are similar in many respects to the subfile developed for the first set of analyses. The critical difference is that the analysis is basically longitudinal (it examines changes in choice between the 12th grade and college entry) and that the competing institutions are not exactly matched in terms of characteristics other than aid offers. To deal with this imperfect matching, regression analyses were employed in which differences between the first and second 12th grade preferences were used as independent control variables. Thus, before the effects of competing aid offers were examined, the stepwise regression analyses first controlled for the effects on choice of differences in the following characteristics of the 12th grade choices:

- Tuition and fees
- Selectivity
- Enrollment
- Distance from student's home to college
- Predominant race (black or white)
- Level (university, four-year, two-year)
- Single sex or coed
- In-state vs. out-of-state

Once the effects of these differential institutional characteristics were controlled, differences in the aid offers of the two institutions were allowed to enter the regression. In essence, this procedure permits one to examine the effects of competing financial aid offers while holding constant the effects of differential institutional characteristics.

Competing financial aid offers for both sets of analyses were expressed in several alternative ways:

- Amount of grant money
- Amount of loan money
- Amount of work-study money
- Total aid offered
- Percentage of grant money in package
- Percentage of loan money in package
- Percentage of work study money in package

These seven measures were expressed in three alternative ways: the raw difference score between the two measures, the log of the difference, and the ratio between the two measures.

Chapter 2

Consistency and Change in Choice Behavior

Chapter 2

Consistency and Change in Choice Behavior

This chapter summarizes changes in the student's college choices from the beginning of the 11th grade until college entry. Most of the findings to be presented are derived from those students who expressed early (11th and 12th grade) choices, since it is only these students who provide an opportunity to assess changes in choice over time.

Table 9 shows how successful students were in implementing their earliest (11th grade) choices. Almost three students in ten (28.8%) enrolled in the same college named as their first choice two years before (when they took the PSAT). An additional 10% of the students enrolled at their 11th grade second choice institution. Men are somewhat less successful than women in implementing their early choices, and high ability students are somewhat more successful than low ability students. Parental income does not, to any significant degree, appear to be related to student success in implementing early choices.

By far the most important characteristic affecting the student's chances of implementing early choices is race. Chicanos and Orientals have the most success, whereas American Indians and Blacks are least successful. As we shall see in a moment, these differences are attributable in part to differences in the type of college initially chosen by different racial groups.

Student success in implementing 12th grade choices is summarized in Table 10. As would be expected, students are considerably more successful in implementing these later choices. More than two students in five (41.9%) actually enroll at the same institution named as their first choice when they took the SAT or ACT, and an additional 25% enroll at one of their other 12th-grade choices. Nevertheless, it is of some interest that fully one-third

Table 9

Success in Implementing Eleventh Grade Choices
(Weighted National Percentages)

Group	First Choice College			Both Choices		
	Applied	Accepted	Enrolled	Applied to either	Accepted by either	Enrolled in either
All Students	43.2	37.5	28.8	50.6	49.2	38.5
By Sex						
men	43.2	35.7	26.6	49.0	47.1	35.9
women	43.2	39.2	30.7	52.1	51.0	40.9
By Ability						
low	37.3	32.1	25.6	46.2	43.7	34.4
middle	43.4	36.9	28.1	49.5	48.2	37.4
high	44.2	39.3	30.2	52.4	51.5	41.2
very high	51.0	44.9	33.3	57.9	56.5	42.9
By Race						
White	43.9	38.3	29.3	51.1	49.7	39.0
Black	31.2	28.7	19.5	40.6	39.5	26.6
American Indian	21.1	21.1	16.2	21.6	21.6	17.6
Oriental	53.6	47.1	38.8	62.6	60.1	50.1
Chicano	62.6	57.7	54.3	72.5	72.0	66.4
By Parental Income						
low	39.7	36.7	30.2	49.3	48.9	38.9
middle	44.1	39.7	30.4	52.1	50.5	40.8
high	41.9	36.8	28.6	50.4	49.1	38.0
very high	43.6	36.6	27.2	50.6	48.6	37.1

Table 10

Success in Implementing Twelfth Grade Choices
(Weighted National Percentages)

Group	First Choice			All Choices		
	Applied	Accepted	Enrolled	Applied to any	Accepted by any	Enrolled in any
All Students	62.5	55.1	41.9	82.3	77.8	66.4
By Sex						
men	61.0	51.8	38.9	81.6	75.7	63.5
women	63.9	58.0	44.6	83.1	79.8	68.9
By Ability						
low	60.3	50.9	41.0	77.6	70.4	59.8
middle	60.8	53.6	40.3	81.1	76.4	65.4
high	63.9	58.0	43.5	84.7	82.2	69.7
very high	68.5	60.3	44.8	89.2	85.3	73.3
By Race						
White	62.6	55.5	42.2	82.5	78.3	66.6
Black	62.4	55.2	40.4	82.1	76.1	63.8
American Indian	60.1	59.6	54.2	68.9	68.9	58.7
Oriental	66.1	58.2	44.6	89.7	84.4	78.9
Chicano	57.9	52.3	45.2	69.6	64.1	59.2
By Parental Income						
low	57.2	51.3	41.4	75.2	70.6	63.2
middle	61.8	56.1	42.6	81.2	77.2	65.0
high	59.8	53.3	40.9	80.0	76.0	65.1
very high	65.6	56.5	42.3	85.1	80.3	68.3

of all students fails to enroll at one of their 12th-grade choices. About half of this group (17.7% of all students) simply failed to apply to any of the colleges they named when they took the college admissions test. About 5% of all students applied to but were not accepted by one or more of their preferred institutions, and about 11% were accepted by at least one but decided to enroll elsewhere. These results suggest that perhaps one-fourth of all students make major changes in their college preferences fairly late in the choice process. Presumably it is this group for whom financial aid offers may play a significant role in last-minute decisions about which college to attend.

Breakdowns of 12th grade choices by student type produce a pattern of changes similar to that found with 11th grade choices. Women are somewhat more successful than men in implementing their 12th grade choices and high ability students are more successful than low ability students. Relationships with parental income however, are inconsistent. Somewhat surprisingly, among those who apply to their preferred institution(s), high ability students are not much more successful than low ability students in gaining admission. As we shall see (below), this result occurs because high ability students prefer much more selective colleges.

Twelfth-grade results for different racial subgroups also parallel 11th grade results although there are some differences worth noting. While Orientals are relatively successful and Blacks relatively unsuccessful in implementing both 11th and 12th grade choices, Chicanos are actually less successful in implementing 12th-grade choices than they are in implementing 11th-grade choices. One possible explanation for this anomaly is that Chicanos' preference for two-year colleges drops off dramatically between 11th and 12th grade (see below). Apparently, Chicano students during their senior year in high school are encouraged to aspire to four-year colleges other than the local community college, but when the time comes to apply for admission, the selective admission policies of the public four-year colleges and universities discourages them and they opt instead for the local community college.

The cost of the students' preferred colleges at different choice points is shown in Table 11. Students aspire to somewhat more expensive colleges than they actually enter. Interestingly enough, 11th and 12th grade choices are roughly comparable in terms of cost. Apparently, the issue of cost does not affect the student's thinking until late in the decision process. Other evidence (see below) suggests that these late changes from more to less costly colleges reflect primarily a shift from private to public institutions.

High ability students aspire to much more costly institutions than any other student subgroup. Chicanos choose by far the least expensive colleges (primarily community colleges). Compared to other racial groups, Orientals attend the most expensive colleges -- more than $100 more expensive, on the average, than colleges attended by white students. What is also interesting about the Oriental students' pattern of changes is that the colleges they actually enter cost about as much as their preferred colleges in 11th and 12th grades.

From a financial aid perspective, perhaps the most significant conclusion to be drawn from Table 11 is that parental income is a less important determinant of the cost of the college attended than is ability: The mean cost of the colleges entered by high ability students is nearly $650 more than the cost of colleges entered by students in the lowest ability group; the comparable cost difference for students in the highest and lowest income categories is less

Table 11

Changes in Choice Behavior:

Tuition & Fees
(Weighted National Means in Dollars)

	First Choice College in			Mean of Preferred Colleges		
	11th grade	12th grade	college entry	11th grade	12th grade	college entry
All Students	1044	1043	893	1065	1070	954
By Sex						
men	1064	1073	921	1100	1112	982
women	1025	1016	869	1034	1032	928
By Ability						
low	856	847	708	865	866	777
middle	959	993	815	993	997	868
high	1120	1088	947	1136	1137	1006
very high	1464	1452	1353	1493	1519	1413
By Race						
White	1048	1049	902	1073	1078	956
Black	1023	1003	872	1010	1017	960
American Indian	919	791	881	934	1030	1010
Oriental	1048	1040	1023	1150	1236	1191
Chicano	405	604	485	536	618	662
By Parental Income						
low	950	914	728	960	1006	837
middle	892	952	812	936	968	867
high	1016	1028	880	1069	1058	916
very high	1182	1137	1006	1196	1170	1062

than $300. Similar differences in the comparative effects of ability and parental income are apparent in the 11th grade: The mean cost of the most preferred college of the highest and lowest ability groups differs by more than $600, as compared to a difference of less than $250 between the highest and lowest income groups.

Table 12 shows the distance from the student's home to those colleges preferred at various points in time. The general pattern is clear: As the time to enroll approaches, students increasingly prefer colleges closer to home. On the average, early 11th grade choices are 70 miles farther from home than the college actually entered two years later. Men show somewhat greater shifts toward colleges near home than do women, possibly because their early choices are more than 80 miles farther from home than early choices of the women. The largest shifts, however, occur among Blacks, who actually attend colleges nearly 150 miles closer to home than those they most prefer in the 11th grade.

As would be expected, the colleges Chicanos attend are closer to home than those of any other racial subgroup, whereas the colleges Orientals attend are much farther (twice as far) from home as those of any other racial subgroup. Student ability and parental income both show strong relationships to the distance from home of the student's college. Students in the lowest ability and income groups attend colleges that are closest to home (average distance about 100 miles), whereas students in the highest ability and income categories attend colleges more than twice as far from home. As was the case with college costs, ability is more strongly associated with distance than is parental income.

The selectivity of students' college choices at various points in time is shown in Table 13. Not surprisingly, students end up enrolling at somewhat less selective colleges than they initially aspire to. The average drop

Table 12

Changes in Choice Behavior:

Distance From Home to College
(Weighted National Means in Miles)

	First Choice College in			Mean of Preferred Colleges		
	11th grade	12th grade	college entry	11th grade	12th grade	college entry
All Students	223	201	155	225	203	164
By Sex						
men	268	242	175	264	241	184
women	182	162	137	190	170	147
By Ability						
low	172	146	104	171	149	114
middle	203	176	134	211	177	145
high	241	230	168	242	226	178
very high	337	304	279	325	331	285
By Race						
White	217	202	153	220	206	164
Black	312	224	166	286	215	178
American Indian	323	252	256	325	297	227
Oriental	428	394	516	507	474	439
Chicano	174	118	111	222	167	121
By Parental Income						
low	182	168	101	180	165	110
middle	185	181	124	194	184	138
high	206	192	132	205	186	144
very high	275	236	212	276	244	217

Table 13

Changes in Choice Behavior:

Selectivity
(Weighted National Means -- SAT V+M of Entering Freshmen)

	First Choice College in			Mean of Preferred Colleges		
	11th grade	12th grade	college entry	11th grade	12th grade	college entry
All Students	1022	1008	961	1021	1007	978
By Sex						
men	1048	1030	976	1045	1026	993
women	999	988	947	1000	991	963
By Ability						
low	953	933	875	951	939	898
middle	1005	992	936	1007	989	957
high	1055	1039	1001	1053	1038	1012
very high	1121	1123	1099	1118	1116	1106
By Race						
White	1029	1016	969	1029	1015	985
Black	940	914	876	929	919	896
American Indian	1000	957	925	1011	966	942
Oriental	1121	1111	1102	1116	1107	1100
Chicano	916	951	891	924	955	905
By Parental Income						
low	977	957	904	968	959	915
middle	992	988	938	996	991	957
high	1024	1012	958	1027	1008	975
very high	1061	1040	1002	1058	1040	1017

in selectivity between early choices and college actually entered is about 60 SAT points (verbal + mathematical). High ability students' choices show the smallest drops in selectivity between 11th grade and college entry; low ability students, on the other hand, appear to have the most unrealistic early choices.

As would be expected, selectivity of the college entered is more strongly related to ability than to any other student characteristic. (This relationship is, of course, somewhat circular, given that selectivity is defined as the mean ability of the students who actually enter the college.) Parental income is also correlated with selectivity (about 100 points difference between the highest and lowest income levels), although the relationship with ability is much stronger (about 200 points).

Among the various ethnic groups, Blacks and Chicanos enter the least selective institutions and Orientals the most selective. Orientals also appear to have the most realistic early choices, with only a 19 point drop in selectivity between their early 11th grade choices and the college actually entered two years later.

Table 14 shows changes in student preference for private institutions and for institutions located in the student's home state. Fewer students end up in private institutions than would be suggested by their early choices. This change, however, occurs entirely during the interval between 12th grade and college entry (a slight increase in preference for private institutions occurs during the interval between 11th and 12th grade). Ability, once again, shows a stronger relationship to preference for a private institution than parental income: The highest and lowest ability groups differ by more than 20 percentage points, as compared to only a 10 percentage point difference between students in the highest and lowest income levels. Both of these

Table 14

Changes in Choice Behavior:

Preference for Private Institutions and In-State Location
(Weighted National Percentages)

	First Choice a Private Institution			First Choice Located in Home State		
	11th grade	12th grade	college entry	11th grade	12th grade	college entry
All Students	32.0	34.0	26.9	73.2	74.3	79.3
By Sex						
men	31.3	34.5	27.4	68.7	69.7	76.3
women	32.6	33.6	26.5	77.2	78.5	82.0
By Ability						
low	26.6	27.8	22.5	79.7	81.0	85.7
middle	28.6	31.9	23.2	76.0	79.0	83.1
high	33.8	35.5	28.0	71.4	70.8	77.1
very high	48.0	49.0	44.0	56.9	56.3	61.1
By Race						
White	31.6	33.9	26.9	73.7	74.3	79.3
Black	36.9	38.4	31.0	61.5	63.8	74.2
American Indian	20.0	14.0	18.3	79.1	82.2	83.9
Oriental	25.1	24.8	25.8	75.2	80.0	72.5
Chicano	9.3	20.7	21.0	88.2	91.6	90.4
By Parental Income						
low	30.2	30.0	21.8	80.3	79.8	87.3
middle	25.0	30.5	23.8	79.9	79.7	84.5
high	30.0	32.1	25.1	76.2	77.5	82.1
very high	37.3	37.2	31.2	64.8	66.5	71.4

student characteristics have what appears to be a curvilinear relationship to choosing a private college, with the largest difference occurring between the high and very high levels. Blacks show the strongest predilection for private institutions, whereas Chicanos and American Indians are the least likely racial groups to attend private colleges. The pattern of change over time for Chicanos, however, is unique: Instead of showing a steadily declining interest in private institutions, Chicanos show an increasing interest with time: More than twice as many Chicanos enter private institutions as prefer them in 11th grade.

Results for the state of the first choice college are generally consistent with the results for distance from home (Table 12): More students end up attending college in their home state than would be expected from their early preferences. Blacks have the largest increases over the two year interval (nearly 13%), whereas fewer Orientals actually end up attending college in their home state than would be expected from their early preferences. Attending college-out-of-state, like distance from home, is positively related to both ability and parental income. Ability shows a slightly stronger relationship than parental income.

Table 15 shows changes in the students' preferences for two-year colleges and universities (the percentage choosing four-year colleges can be computed simply be adding the percentages choosing two-year colleges and universities and subtracting the sum from 100). Changes in preference for these major institutional types are among the largest for any college choice measure. The trend between 11th grade and college entry is away from universities and toward two-year colleges. Nearly three times as many students actually enter two-year colleges (29.2%) as initially aspire to them in the 11th grade (10.4%). At the same time, the number actually enrolling in universities (29.8%) is

Table 15

Changes in Choice Behavior:

Preferences for 2-Year Colleges and Universities

(Weighted National Percentages)

	First Choice a 2-Year College			First Choice a University		
	11th grade	12th grade	college entry	11th grade	12th grade	college entry
All Students	10.4	11.9	29.2	49.4	43.0	29.8
By Sex						
men	7.8	10.2	28.8	57.5	49.4	33.3
women	12.6	13.5	30.0	42.1	37.3	26.6
By Ability						
low	16.5	20.8	45.9	37.4	30.5	12.8
middle	12.7	12.7	32.9	47.1	39.6	24.5
high	5.8	8.4	21.3	55.9	49.5	38.9
very high	2.9	1.9	6.3	62.6	61.2	54.8
By Race						
White	10.2	11.6	28.9	50.4	44.0	30.9
Black	4.9	6.8	15.3	43.7	37.8	22.7
American Indian	7.1	30.9	48.2	77.9	47.5	25.7
Oriental	0.1	0.0	5.0	80.5	77.7	61.5
Chicano	50.5	27.8	68.0	26.2	23.5	8.8
By Parental Income						
low	15.8	16.8	41.4	45.0	36.9	17.8
middle	14.1	15.1	37.0	45.1	38.5	22.8
high	9.4	10.8	31.8	50.2	44.8	28.5
very high	5.6	7.4	17.7	56.9	49.6	40.6

much smaller than the number expressing a preference for universities two years earlier (49.4%). Although these changes begin between the 11th and the 12th grade, by far the greatest change occurs between college admissions testing in the 12th grade and college entry. Increases in two-year college choices during this interval are very close in magnitude to the decreases in university choices. Thus, preferences for four-year college show very little change over the two-year interval.

Once again, student ability is more strongly related than other student characteristics to choosing a university over a two-year college. Low ability students enrolling in two-year colleges outnumber those in universities by more than three-to-one, whereas students of very high ability enrolling in universities outnumber those in two-year colleges by more than eight-to-one. Student ability is also related to changes in preference: Between 11th grade and college entry, low ability students show much larger increases in preferences for two-year colleges (29%) than do students of very high ability (4%); at the same time, low ability students show much larger declines in preference for universities (26%) than do students of very high ability (8%). Similar differential changes occur across income groups, although the differences are not as pronounced.

American Indians showed by far the largest temporal shifts in preference for two-year colleges over universities, with a 41% increase for two-year colleges being accompanied by a 52% decrease for universities. (These trends should be interpreted with caution, however, given the relatively small sample of American Indians.) At the time of college entry, Chicanos and American Indians are most heavily concentrated in two-year colleges, whereas Orientals are the least likely group to enroll in two-year colleges and the most likely to enroll in universities. Orientals are twice as likely as white students and seven times more likely than Chicanos to enroll in universities.

Changes in preference for two other types of institutions -- predominantly Black and religious institutions -- are shown in Table 16. Preference for predominantly Black institutions shows little change over the two year interval. As would be expected, the only student subgroup showing much preference for this type of institution is Black students, with about one out of three enrolling at a predominantly Black institution. The tendency for low ability and low income students to show some predilection for predominantly Black institutions is not surprising, given the heavy concentration of Black students in these subgroups.

Preference for a religiously affiliated institution showed very little change over the two-year interval. There was a slight tendency for the more able and more affluent students to show increasing interest in religiously affiliated institutions, although the trends were very modest. Among ethnic groups Whites and Chicanos are most likely to enter religiously affiliated institutions. The percentage of Chicanos entering such institutions (7.3%) represents a substantial increase over the percentage preferring such institutions two years earlier in 11th grade (2.6%).

Table 17 shows changes in preference for institutions of differing selectivity. Preference for private institutions of low selectivity -- the so-called "invisible" colleges (Astin and Lee, 1971) -- shows a pattern very similar to the pattern for religiously affiliated institutions (Table 16). (There is, of course, come overlap between these two groups of private institutions.) Students show few changes over time in preference for such institutions, and differences among subgroups are relatively small.

Table 16

Changes in Choice Behavior:

Preference for Black and Religious Institutions

(Weighted National Percentages)

	First Choice Predominantly Black Institution			First Choice a Religiously Affiliated Institution		
	11th grade	12th grade	college entry	11th grade	12th grade	college entry
All Students	2.1	2.6	2.1	7.9	9.4	8.3
By Sex						
men	1.5	2.1	1.5	5.9	8.2	7.6
women	2.6	3.1	2.7	10.0	10.4	8.9
By Ability						
low	6.9	7.4	7.2	8.0	8.2	6.6
middle	1.3	1.6	1.3	8.7	10.3	8.9
high	0.4	1.5	0.2	6.9	9.2	8.8
very high	0.1	0.1	0.1	7.6	9.2	9.3
By Race						
White	0.2	0.7	0.1	8.2	10.1	8.8
Black	28.4	31.9	32.2	3.7	3.3	4.4
American Indian	0.0	0.0	4.8	2.6	1.2	1.2
Oriental	0.0	0.0	0.0	1.5	3.7	3.3
Chicano	0.0	0.0	0.0	2.6	7.1	7.3
By Parental Income						
low	6.9	7.9	7.7	5.6	7.4	7.1
middle	2.1	2.9	2.2	7.9	9.7	8.3
high	1.1	1.1	1.2	7.7	8.9	8.5
very high	1.0	1.3	1.0	8.1	9.4	8.8

Table 17

Changes in Choice Behavior:

Preference for Institutional Types by Selectivity

	First Choice Private Institution of Low Selectivity			First Choice Highly Selective Private Institution			First Choice a Selective Public University		
	11th grade	12th grade	college entry	11th grade	12th grade	college entry	11th grade	12th grade	college entry
All Students	7.3	9.0	10.5	14.8	13.8	8.3	19.8	17.9	12.0
By Sex									
men	6.2	7.6	9.1	18.2	16.5	10.2	22.6	20.1	13.5
women	8.3	8.3	11.9	11.9	11.4	6.5	17.3	15.8	10.6
By Ability									
low	6.9	7.7	12.8	6.8	5.5	1.5	12.1	10.9	2.8
middle	7.4	8.6	13.6	10.8	10.0	4.1	19.3	16.6	9.2
high	7.9	8.5	9.8	18.2	16.7	10.8	24.4	22.1	18.0
very high	6.1	5.0	4.8	34.0	34.4	27.7	23.6	24.1	22.6
By Race									
White	6.9	7.7	10.6	15.4	14.2	8.3	20.5	18.7	12.7
Black	8.3	6.1	7.7	11.4	12.9	6.4	10.6	9.9	4.3
American Indian	7.6	10.0	14.3	9.7	2.9	7.1	13.5	10.0	1.4
Oriental	7.1	5.6	12.0	16.6	15.5	17.7	44.4	48.3	44.4
Chicano	2.6	4.3	6.0	4.1	8.4	5.7	13.9	8.0	3.4
By Parental Income									
low	10.1	9.6	9.8	10.6	8.6	4.5	16.1	11.7	5.8
middle	5.9	5.9	9.4	9.1	12.1	5.5	17.2	15.9	8.2
high	7.4	8.5	6.3	13.1	12.2	7.2	20.6	19.5	10.6
very high	7.6	7.6	7.4	20.6	18.0	12.4	23.3	20.9	17.7

Results for highly selective private institutions and selective public universities follow very similar patterns. Considering that these two groups are mutually exclusive (i.e., choosing one precludes choosing the other), the fact that the patterns are very similar is remarkable. Apparently, institutional selectivity is a major factor influencing student choice independent of other institutional characteristics. Temporal changes follow the pattern shown earlier for institutional selectivity, private institutional choice, and choice of a university: Fewer students enter such institutions than one would expect from early choices. Moreover, the declines between 11th and 12th grade are much smaller than the declines between 12th grade and college entry.

Ability is more closely associated with choosing a selective public university or selective private college than any other student characteristic: Half of the students in the very high ability group enroll at one of these two types, as contrasted to less than 5% of low ability students. About 30% of the students in the very high income group enroll in such institutions, compared to about 10% of low income students. Once again, student ability turns out to be a more important correlate of choice than parental income.

Of all racial groups, Orientals show the most distinctive pattern: 62% enroll at either a highly selective private institution or a selective public university. Further, Orientals' early choices are almost identical to their final pattern of enrollment, suggesting once again that this racial group is characterized by much more realistic early college choices than other ethnic groups. Chicanos are the only racial group showing a contrasting pattern for the two institutional types: A substantial decline in preference for selective public universities is accompanied by a slight increase in preference for highly selective private institutions between 11th grade and college entry.

Students Without Early Choices

While it is not possible to assess changes in choice behavior for students who expressed no early college choices, it is of interest to determine if the types of colleges they actually enter differ from the colleges entered by students who express early choices. Table 18 shows the characteristics of the college entered for students with and without early choices. The two patterns of institutional characteristics are quite similar, although there are certain differences. Students with no early preferences are more likely to end up attending two-year colleges and less likely to enroll in universities. Somewhat surprisingly, they are also slightly more likely to enroll out-of-state and at highly selective private colleges, and the average cost of the colleges they attend is slightly higher than the average cost of the colleges entered by students with early choices. Apparently, students who express no early college preferences are a highly diverse group that comprises substantial numbers of students bound for community colleges as well as relatvely large numbers who will enroll out-of-state in highly selective private institutions.

Table 18

Characteristics of College Entered for Students With and Without 11th Grade or 12th Grade Choices

College Characteristics	Percent or Mean Among Students With both 11th and 12th grade choices Weighted	 Unweighted	 Without 11th and/or 12th grade choices Weighted	 Unweighted
Tuition and fees	$882	1307	963	1484
Distance from home to college	146 miles	206	153	212
Selectivity	958	1041	952	1054
Located in home state	80.3%	69.4%	77.9%	63.5%
Privately controlled	26.2%	47.6%	26.5%	49.4%
Two-year college	29.9%	5.9%	37.8%	7.2%
University	29.5%	45.3%	21.9%	39.6%
Nonselective private	6.4%	10.3%	5.7%	10.5%
Highly selective private	8.1%	20.3%	9.9%	26.6%
Selective public university	11.4%	17.3%	8.5%	15.4%
Predominantly Black	2.2%	3.4%	1.0%	1.9%
Religiously affiliated	8.1%	13.7%	8.1%	13.2%

Chapter 3

Summary of Regression Analyses

Chapter 3

Summary of Regression Analyses

To familiarize the reader with the type of analysis that provides the major empirical basis for this report, a typical regression analysis has been summarized in Table 19. Here we have employed one of the more critical dependent variables: enrolling in a private versus public college. Independent variables incorporate early choice information only from the 11th grade (i.e., measures of 12th grade choices have not been included). Thus, the regression involves the use of 11th grade data to predict whether or not a student will enroll in a private college two years later. Note that the group used here is the "all students" sample from the 11-12-freshman file, (N=19,220) but that the actual sample used in the regression is somewhat smaller (N= 7,240) because students with no 11th grade choices or with missing data have been omitted.

The final multiple correlation of .49 indicates that entry to a private institution can be predicted with only modest accuracy from choice information collected two years earlier. Only those independent variables that entered the stepwise regression are shown in Table 19. Coefficients shown in the first column are the simple correlations between each independent variable and the dependent (choice) variable (entered a private versus public institution). The second column shows the standardized regression coefficients in the final multiple regression equation. Not surprisingly, preferring a private college in the 11th grade carries by far the largest weight in predicting whether the student will actually enter a private college two years later. However, one other early choice variable - the mean tuition of all 11th grade choices - also carries a substantial weight. This means that, even after controlling for whether the student's first choice is public or private, the average tuition of the early choice set also carries substantial weight. Much smaller positive weights are associated with the mean distance of the early choice set from home, the prestige of the first choice, and the

Table 19

Summary of a Typical Regression Analysis: Predicting Enrollment in a Private College from 11th Grade data (N=7,240) (Final R = .49)

Predictor	Simple r with Entering A Private College	Standardized Regression Weight (B) in Final Equation
Student Personal Characteristics		
Attended private high school	.16	.06
PSAT verbal score	.15	.05
Mother's education	.12	.06
High school grades	.07	.03
Ethnicity: Chicano	.05	.05
Ethnicity: White	.01	.04
11th grade college choices		
First choice private	.43	.25
Mean tuition of all choices	.39	.14
Mean size of all choices	-.23	-.06
First choice in home state	.19	.03
Prestige of first choice	.10	.04
Mean distance from home of all choices	.10	.03
Local Higher Education Environment		
Distance to nearest public black college	.15	.11
Distance to nearest nonselective public university	.10	.04
Distance to nearest public four-year college	.07	.02
Distance to nearest selective public university	.01	.11
Financial Aid Variables		
Received a BEOG (yes or no)	.12	.09*
Amount of BEOG received	.14	.11*
State BEOG dollars per student	.00	.05*
Total federal grant dollars per student in the state	.11	.05*

*Partial correlations (variables not allowed to enter equation).

first choice being in the student's home state; the mean size of the early choice set carries a negative weight. This latter result means simply that, even after controlling for whether the student's early choice is public or private, preferring smaller rather than larger institutions in the 11th grade increases the student's chances of ending up in a private college. Apparently, preference for private institutions reflects in part a preference for small rather than large institutions.

A number of personal characteristics entered the regression equation with small weights. Students who are most likely to attend private colleges are those who attend private high schools, have high verbal ability and good grades in school, have highly educated mothers, and are either Chicano or White.

Four characteristics of the student's local higher education environment entered the regression with positive weights. Since these measures indicate the distance from the student's home to various types of public institutions, the coefficients can be interpreted to mean that students will be more likely to enter a private institution if there are not public four-year colleges or universities in the vicinity. Among other things, these results imply that private institutions will have a difficult time recruiting students who live near public four-year colleges or universities.

The last category of independent variables included various measures of financial aid that showed significant partial correlations with choosing a private college after all other independent variables had been allowed to enter the regression. The first two BEOG measures indicate that students who receive basic grants are more likely to enroll in private institutions. (The possible meaning of these results will be discussed subsequently in chapter 7.) The final two financial aid variables are state level measures, both of which are positively associated with entering a private college.

Because of the large number of dependent variables and the many regressions run with each variable, it was not feasible to develop separate tables similar to Table 19 for each analysis. Rather, in subsequent chapters only the major highlights from the many analyses will be presented in any detail. The criteria used to select the particular analyses to be reported in detail are discussed later on in this chapter.

Table 20 summarizes the regression analyses conducted with the 11th grade-12th grade longitudinal file comprising approximately 1,000 students from each state. Note that different dependent variables can be predicted with varying degrees of accuracy from early choice data. The poorest predictions occur for the first three variables. This result is not surprising, in view of the fact that these are the only variables for which no appropriate "pretest" was available in the 11th grade data. Note also that predictions for those students who expressed no 11th grade choices are consistently poorer than predictions involving students who provided 11th grade choices. Once again, this result is to be expected, since "pretest" choices were not available for these students.

Results of the analysis summarized in Table 20, together with results from analyses involving other longitudinal files, showed that several dependent (choice) variables were sufficiently redundant to obviate the need for reporting results for all dependent variables. For example, applying to the first choice college and acceptance by the first choice college showed results that were virtually indistinguishable from the results obtained with entry to the first choice college. Similarly, regressions using the mean choice measures (tuition, size, selectivity, and distance) produced results almost identical to those obtained using measures of the first choice institution.

Table 20

Summary of Regressions:
11th Grade-12th Grade Data With 1,000 Students per State

	Final R Among Students	
Dependent (Choice) Variable	With 11th grade choice (N=28,931)	With and Without Choices (N=43,622)
Consistency in college choice: 11th to 12th grade		
First choice same in 11th and 12th grades	.31	**
First 11th grade choice among 12th grade choices	.34	**
Either 11th grade choice among 12th grade choices	.29	**
Characteristics of 12th grade choices		
Mean tuition and fees	--	.52
Mean size	--	.39
Mean selectivity (SAT V+M of entering freshmen)	.72	.60
Mean distance from home	.61	.45
Characteristics of first 12th grade choice		
Two-year college	.43	.30
University	.50	.33
Privately controlled	.52	.30
Religiously affiliated	.33	.18
Predominantly Black	.63	.53
Selective public university (SAT V+M above 1049)	.45	.39
Highly selective private institution (SAT V+M above 1174)	.50	.36
Nonselective private institution (SAT V+M below 1024)	.33	.19
Tuition and fees	.59	.45
Size	.48	.30
Selectivity	.66	.53
Prestige*	.63	.50
Distance from home	.61	.41
Located in home state	.56	.42

*A combination of size and selectivity (see Appendix C).

**These coefficients do not exist for students without 11th grade choices.

Consequently, results with these redundant dependent variables will not be reported since they contribute little, if any, unique information to the total study results.

Table 21 shows the results of the regression analysis involving 11th grade-12th grade longitudinal data for various student subgroups. Note that the multiple correlation coefficients obtained from subgroup analyses closely parallel the coefficients derived from the "all students" analyses. The smaller correlations in several subgroups probably occur because of the restricted variation in both independent and dependent variables within these subgroups. Other subgroup analyses, on the other hand, produced slightly larger final correlations, possibly indicating the presence of interaction effects. Generally speaking, the 12th grade choices of White students and of students in the higher ability ranges are more accurately predicted from 11th grade data than those of Blacks and of students in the lower ability ranges. This superior predictability appears to be attributable mainly to the greater reliability of early choices in these groups (see the next chapter).

Table 22 shows the final multiple correlation coefficients obtained using the three-way longitudinal file data (11th-12th-college entry). The relative predictability of choice outcomes in this group is very similar to that found in the 11th grade-12th grade longitudinal sample, with institutional selectivity being the most predictable choice outcome and enrolling in the first choice institution being the least predictable outcome. The relatively low predictability of entering a two-year college is probably attributable in large part to the many last-minute switches to two-year colleges (see chapter 2). The data in Table 22 also show clearly that including 12th grade data in the predictive equation substantially increases the accuracy of

Table 21

Predictions of 12th Grade Choices from 11th Grade Data by Subgroups

Student Subgroup	Characteristics of 12th Grade Choice(s)										
	private	mean distance from home	mean selec-tivity	same as 11th grade choice	mean tuition and fees	two-year college	Black college	mean size	located in home state	high select-ivity private	prestige
All Students	.51	.56	.70	.26	.65	.42	.58	.52	.52	.53	.61
Men	.54	.60	.71	.28	.68	.39	--	.50	.53	--	.63
Women	.51	.61	.68	.28	.65	.45	--	.56	.55	--	.61
White	.51	.62	.68	.23	.65	.45	--	.52	.55	--	.62
Black	.42			.25							
Low income	.49	.57	.70	.29	.63	.43	--	.51	.50	--	.61
Middle income	.49	.58	.66	.26	.64	.42	--	.52	.49	--	.59
High income*	.54	.59	.71	.26	.68	.43	--	.52	.56	--	.62
Low ability	.43	.56	.61	.30	.60	.43	--	.51	.48	--	.50
Middle ability	.48	.59	.58	.27	.61	.38	--	.48	.51	--	.52
High ability	.54	.60	.63	.28	.66	.39	--	.53	.55	--	.56
Very high ability	.58	.60	.68	.23	.68	.37	--	.52	.60	--	.63

*High and very high income groups were not separated in these analyses.

Table 22

Predicting Characteristics of College Entered From 11th and 12th Grade Data: Final Multiple R's for Selected Dependent Variables

Dependent (choice) Variable	Final R Using 11th and 12th grade choices	Final R Using 11th grade choice only
Private college	.61	.49
Distance from home to college	.68	.53
Selectivity of choice	.77	.71
Enrolled in first choice from 11th grade	.30	.31
Tuition of college entered	.72	.56
Two-year college	.46	.34

prediction. Such a result is to be expected, given the much shorter time period between 12th grade and college entry.

Table 23 shows the final multiple correlations for the same variables separately by student subgroup. Once again, predictability in the subgroups tends to be just as accurate (and sometimes more accurate) than predictions for students in general. Moreover, selectivity is consistently the most predictable and enrolling in the first choice institution or in a two-year college the least predictable choice outcomes.

Table 23

Prediction of College Entered From 11th Grade Data: Final Multiple R's by Subgroup for Selected Dependent Variables

Subgroups	Dependent (Choice) Variable Private College	Distance from to College	Selectivity of Choice	Enrolled in First Choice from 11th Grade	Tuition of College Entered	Two-Year College
All students	.49	.53	.71	.31	.56	.34
Men	.47	.52	.70	.27	.54	.34
Women	.49	.48	.71	.28	.59	.37
White	.50	.64	.68	.27	.57	.37
Black	.44	.46	.70	.36	.52	.16
Low income	.43	.51	.74	.32	.54	.38
Middle income	.48	.52	.68	.28	.54	.38
High income	.47	.60	.67	.31	.52	.35
Very high income	.52	.55	.67	.27	.58	.24
Low ability	.44	.51	.67	.33	.51	.44
Middle ability	.45	.51	.57	.30	.49	.33
High ability	.50	.53	.57	.27	.53	.29
Very high ability	.49	.51	.55	.28	.53	.26

Chapter 4

Effects of Student Characteristics

Effects of Student Characteristics

This chapter examines the impact of various student personal characteristics on institutional choice. Student characteristics will be considered in two broad categories: Early choices, and personal and family characteristics.

Early Choices

The tables in chapter 2 and the regression summarized in Table 19 (Chapter 3) suggest that students' early choices are important determinants both of their later choices and of the characteristics of the institutions they ultimately enter. Table 24 shows the correlations between 11th and 12th grade choices and the final multiple correlation coefficients for regressions in which all student and environmental measures were used to predict 12th grade choices. Generally speaking, early choices carry more weight in the multivariate prediction than all the other independent variables combined.

How consistently do early choices predict later choices among various subgroups? Table 25 shows the correlations between seven 11th and 12th grade choice outcomes, separately for each of the fifteen student subgroups. Student choices are just about as consistent within subgroups as they are for students in general, although there is some tendency for blacks to be less consistent than whites. The relatively low consistency among whites who choose predominantly black colleges can be attributed to the extremely low base rate: Less than 1% of whites prefer black colleges. With the exception of choosing a black college, high ability and high income students tend to be more consistent in their choices than low ability and low income students.

How accurately do 11th and 12th grade choices predict the characteristics of the college actually entered? Are means based on early choices better

Table 24

Prediction of 12th Grade Choice(s) from 11th Grade Choice(s)

	Correlation Between 11th and 12th Choices	Final R Using All Predictors
Mean tuition and fees	59	65
Mean size	48	52
Mean selectivity	62	70
Mean distance from home	55	59
Privately controlled	45	51
Predominantly Black	52	58
Tuition and fees	49	58
Size	42	47
Selectivity	57	64
Prestige	54	61
Distance from home	53	56

Note: Decimals have been omitted from coefficients.

Table 25

Correlation Between 11th Grade and 12th Grade Choice(s) by Subgroup

Student Subgroup	Choice Variable						
	mean tuition and fees	mean size	mean selectivity	mean distance from home	privately controlled	predominantly Black	Prestige
All students	59	48	62	55	45	52	54
Men	60	46	63	55	49	57	55
Women	60	53	61	58	46	54	54
Whites	59	49	59	57	47	13	55
Blacks	52	45	56	49	34	45	47
Low income	55	45	57	52	42	59	53
Middle income	59	48	58	54	44	56	52
High income*	62	48	63	54	48	50	55
Low ability	53	47	53	53	40	57	42
Middle ability	55	44	52	55	44	30	41
High ability	63	50	58	57	48	43	51
Very high ability	65	49	63	57	54	25	58

*High and very high income groups have been combined.

Note: Decimals have been omitted from coefficients.

or worse predictors of later choices than measures of the most preferred institution? Table 26 shows results for four selected choice variables. As expected, 12th grade choices predict characteristics of the college entered more accurately than 11th grade choices. What is somewhat surprising is the fact that the mean measures of distance, selectivity, and tuition and fees predict just as well, if not better than, the individual measures based on the most preferred college.*

In short, these findings show clearly that the most important determinants of students' final institutional choices are their early choices.

Personal and Family Characteristics

Table 27 shows the weights associated with selected student personal characteristics in predicting six choice outcomes** over a one-year interval (11th grade-12th grade). Note that at least one of the two PSAT scores (verbal or mathematical) entered each of the six regressions (both scores entered three of the six). Further, the zero-order correlations and final

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*This finding led to a decision to rerun all analyses using only the mean scores based on early choices (11th and 12th grade) rather than the corresponding measures based on the most preferred institution. The extremely high degree of collinearity between corresponding individual and mean measures (for students with only one 11th grade choice, produced bizarre results in some of the regression analyses. For example, when both measures (say, selectivity of the first choice and the mean selectivity of all choices) entered the regression equation, one of the two frequently had an extremely large regression weight of opposite sign. Since including both measures instead of just one ordinarily contributed very little to the overall accuracy of prediction, it was decided to leave out the measures based on the student's first institutional choice in order to produce regression solutions that would be more easily interpreted.

**To simplify presentation and interpretation of findings, most results that follow will be limited to these six choice outcomes.

Table 26

Correlation of 11th and 12th Grade Choice Variables
With Selected Characteristics of the College Entered

	Correlation of College Entered With	
College Entry Characteristic	11th grade choice	12th grade choice
Private institution	.43	.56
Distance from home to college	.49(.48)	.62(.57)
Selectivity	59(.61)	.69(.71)
Tuition and fees	.50(.51)	.60(.65)

Note: Numbers in parentheses are correlations with means from 11th and 12th grade choice sets.

Table 27

Predictive Weights Associated With Selected Student Personal Characteristics (11th grade-12th grade)

Student Characteristics	Characteristics of 12th Grade Choice (or Choice Set)											
	private control		mean distance from home		selectivity		same as 1st choice in 11th grade		mean tuition		two-year	
	r	B	r	B	r	B	r	B	r	B	r	B
Parental income	--		10	04	23	09	01	02	--		-07	-03
Parent's education*												
White	--		-04	-04	--		--		--		--	
Black	--		--		--		-06	-04	--		-04	-08
PSAT verbal	13	06	15	05	39	10	03	03	24	08	--	
PSAT math	--		15	05	44	13	--		23	05	-15	-07
Sex (female)	--		--		-17	-07	--		-08	-03	05	02
Private high school	14	07	01	03	07	02	--		16	07	--	
High school grades	07	04	--		28	09	07	05	14	06	-13	-07

*Not available in 11th grade-12th grade data.

Note: Results obtained from students who expressed 11th grade choices. Variables not entering equation are indicated by a dash (--).

Note: Decimals have been omitted from coefficients.

regression weights were generally larger for these aptitude test scores than for the other predictors. High school grades entered five of the six regressions with a pattern of weights similar to that for PSAT scores. These results show that academic ability and achievement are more important determinants of the type of college attended than any other student characteristic. Not surprisingly, academic talent is of particular importance in predicting the selectivity and cost of the college attended.

These results make it clear that the more academically able students, compared to less able students, are more likely to enroll at selective, costly, private institutions located relatively far from home. Able students are also somewhat better able to implement their early choices and less likely to enroll in two-year colleges.

The second most important student personal characteristic appears to be parental income. The pattern of coefficients resembles that for the measures of ability and achievement, although the coefficients are somewhat smaller. What is of particular interest, however, is the failure of parental income to enter the regression for the cost of the college attended. Here is one item of educational folklore not supported by the data: Being from a poor family does not seem to be a major impediment to attending a private college or a relatively costly college. Being poor does represent an impediment, however, to attendance at a selective institution. It is tempting to speculate on the possible meaning of this result. Could it be that private institutions prefer high over low income students because the former represents less of a drain on their internal aid resources? The more selective private institutions, of course, would be in a position to implement such a preference because of their relatively large applicant pools.

Coefficients associated with attending a private high school indicate that private school students are more likely to opt for private and high-cost colleges than students who attend public high schools. Coefficients for sex show that women enter less selective colleges than do men and that they are also more likely than men to enroll in two-year institutions. Coefficients for race reinforce the conclusions reached in Chapter 2; namely, that blacks are less likely than whites to implement their early choices and less likely to enter two-year colleges.

Is the prediction pattern for student personal characteristics similar over a two-year interval (11th grade to college entry)? Results presented in Table 28* are remarkably similar to those in Table 27. Once again, academic ability and achievement correlate with virtually every choice variable and generally have the largest coefficients. The educational level of the student's parents, which was not available for the 11th grade-12th grade longitudinal data (Table 27), produces results very similar to the results for parental income. As a matter of fact, the education of the student's parents entered every regression with significant weights, and clearly contributes to the student's choice over and above the contribution of parental income or student ability. As would be expected, students with highly educated parents end up attending more selective and more expensive colleges located farther from home than students with less educated parents. Students with highly educated parents are also more likely to enter private colleges and less likely to enter two-year colleges.

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*Note that parental income in Table 28 is based on the CIRP entering freshmen survey, whereas the parental income measure used to generate the data in Table 27 comes from the SAT or ACT questionnaire. The somewhat higher zero-order correlations in Table 28 probably occur because the CIRP income item had several categories above $20,000, whereas the SAT or ACT income item was truncated at $20,000 or above.

Table 28

Predictive Weights Associated with Selected Student Personal Characteristics (11th grade--college entry)

	Dependent (Choice) Variable											
Student Characteristic	Private College		Distance from Home to College		Selectivity of Choice		Enrolled in First Choice from 11th Grade		Tuition of College Entered		Two-Year College	
	r	B	r	B	r	B	r	B	r	B	r	B
Parental income (CIRP)	--		21	09	27	05	-03	01	16	03	-08	-03
Parent's education *	12	06	19	04	28	05	-01	03	18	06	-10	-04
White	01	04	--		--		03	03	03	-05	--	
Black	--		--		--		--		--		--	
PSAT Verbal	15	05	16	03	44	11	03	05	26	08	-11	-03
PSAT Math	--		18	06	50	15	01	02	23	04	-12	-04
Sex (female)	--		--		-17	-04	--		--		--	
Private high school	16	06	--		--		--		13	05	--	
High school grades	07	03	--		34	11	05	03	15	04	-19	-07

Note: Results obtained from students who expressed 11th grade college preferences. Variables not entering equation are indicated by a dash (--).

*Mother or father's education. Because these variables correlated substantially with each other, only one entered any given regression. Coefficients shown are for whichever one entered the regression.

Note: Decimals have been omitted from coefficients.

Because of the obvious importance of parental income in a study of student financial aid programs, Table 29 reports additional details concerning the final regression coefficients associated with parental income by student subgroup. Parental income is most consistently related to how far the student goes away from home to attend college and the selectivity of the institution attended. This means that regardless of the sex, race, or ability of the student, students from more well-to-do families are more likely to attend selective colleges and colleges located away from home. Apparently, being from a poor family constrains choice primarily by reducing the chances that the student will go away from home to attend college. It is not clear whether this effect is economic -- parents probably believe it is cheaper for the student to live at home -- or whether poor families are less likely to encourage the children to leave home.

It is not surprising that parental income showed few significant relationships to choice within the four income categories, given the considerable restriction in range on parental income within any given category. Nevertheless, it is of interest that, within the very high income group, parental income is positively related to attending a selective, expensive, private college located away from home. Apparently differences in parental income above the $20,000 level are related to choice, independent of ability, sex, race, the local higher education environment, and other factors that were controlled in the regression equations.

Perhaps the most interesting finding within income categories occurs in the middle income level (between $7,500 and $14,999). Here we find significant coefficients for attending a private college and for college costs, but the sign of the coefficients is negative. This means that, within this income range, the less affluent students are more likely to attend high

Table 29

Predictive Weights (B's) Associated With Parental Income: One-and Two-Year Intervals

Student Subgroup	private college		distance from home to college		selectivity of choice		enrolled in first choice from 11th grade		tuition of college entered		two-year college	
	one year*	two years**	one year*	two years**	one year*	two years**	one year*	two years**	one year*	two years**	one year*	two years**
All students	--	--	04	09	09	05	02	01	--	03	-03	-03
Men	--	--	11	08	08	03	--	--	02	--	-04	--
Women	--	--	06	07	05	06	--	--	--	02	--	-04
White	--	--	07	10	05	03	--	--	03	03	-06	--
Black	--	--	06	--	03	--	03	07	--	--	--	--
Low income	--	--	--	--	--	--	--	--	--	--	--	05
Middle income	--	-03	03	--	--	--	--	--	--	-03	--	--
High income	--	--	--	--	--	--	--	--	--	--	--	--
Very high income	NA	07	NA	08	NA	08	NA	--	NA	08	NA	--
Low ability	--	--	07	09	06	03	04	--	03	05	-06	-03
Middle ability	--	--	06	08	06	05	03	--	03	--	-06	--
High ability	--	--	06	09	05	07	--	--	--	04	--	00
Very high ability	--	-05	06	06	06	05	--	--	02	--	--	--

Dependent (Choice) Variables: columns from "private college" through "two-year college".

Note: Variables not entering equation are indicated by a dash (--). "NA" means not available.

*11th grade-12th grade

**11th grade-college entry

cost and private colleges than the more affluent students. While the coefficients are small, such a reversal in sign is unusual enough to warrant some discussion. One possible interpretation is that these results reflect the so-called "middle income squeeze," whereby the college choices of these students who are just above the income cutoffs for financial aid eligibility are more constrained than the choices of those slightly less affluent students who are eligible for financial aid.

Chapter 5

The Higher Education Environment

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Measures of the local higher education environment -- the proximity of the student's home to various types of colleges -- were related to early choice outcome in every analysis, even after student characteristics, early choices, and state characteristics were taken into account. These results show clearly that the type of institution ultimately attended by the student is to some extent constrained by geographic factors.

Table 30 shows how the different higher education environment measures affect selected choice outcomes over a two-year interval (11th grade to college entry). Except for the four measures reflecting the proximity to Catholic and Protestant colleges (which did not enter any regression), every environmental measure entered at least two of the regressions and one measure (distance to the nearest nonselective public university) entered all seven regressions. Students who live near such institutions are more likely to attend low-cost public institutions located near home (but not community colleges). They are also more likely to enroll in their first choice institution and less likely to enroll in a predominantly Black institution.

In the remaining sections the effects of environmental measures will be summarized for six choice outcomes: community colleges, first choice institution from the 11th grade, tuition, predominantly black, university, and religious institution.

Community Colleges

The results shown in Table 30 suggest that the student's decision to enroll in a community college can be substantially influenced by the proximity of other types of institutions. The negative coefficient (-.11)

Table 30

Effects of Higher Education Environment on Various Choice Outcomes
(11th grade-college entry)

	Choice Outcome (college entered)													
	private		two-year college		distance from home		selec-tivity		enrolled in 1st choice		tuition		predominantly Black*	
Environmental Variable	r	B	r	B	r	B	r	B	r	B	r	B	r	B
Distance to nearest														
Public two-year college			00	-09	11	05	-08	02					20	05
Public four-year college	07	02	09	05			-12	-03	07	03				
Nonselective public university	10	04	04	05	07	09	08	-04	-09	-03	13	04	01	06
Selective public university	01	11	06	06	04	04	-21	-06			-07	08		
Public black institution	15	11					27	11			20	08	-36	-20
Private black institution					06	02			-04	-04	18	04	-33	-07
Nonselective Catholic college														
Selective Catholic college														
Within 25 miles, number of														
Low selectivity private colleges			-13	-11			19	05					-32	-04
Middle selectivity private colleges			-06	-05	-07	04			-10	-06				
High selectivity private colleges			-02	08	-12	-11					15	05		
Nonselective Protestant colleges														
Selective Protestant colleges														

Note: r=zero-order correlation; B=final Beta weight. Where coefficients are missing, variables did not enter the stepwise regression.

*Black students only.

associated with the number of low selectivity private colleges within 26 miles suggests that the community college competes directly with such institutions when they happen to be located near each other. There also appears to be some competition with middle selectivity private colleges (-.05), but no competition with the high selectivity private colleges (.08). Given the open admissions policies of most two-year colleges, it is not surprising that they compete more with the nonselective private colleges than with the selective ones.

That the two-year colleges also compete with public institutions is suggested by the positive coefficients associated with the distance from public four-year colleges and from selective and nonselective public universities. How serious is this competition? Does the proximity of other types of public institutions substantially influence the likelihood that a student will enroll in a community college? Table 31 shows the probability that the student will enroll in a community college as a function of the proximity of nonselective public universities and public four-year colleges (it was assumed that students who might otherwise opt for a community college would be most likely to enroll in these two other types of public institutions if they were located nearby). Among students with no public four-year college and no selective public university within 20 miles of home, 47% end up attending a two-year college if there is one located within 20 miles of their home. Having no two-year college within 20 miles reduces these chances to 30%. By contrast, if a student lives within 20 miles of all three types of public institutions, the chances of enrolling in the community college are only 14%. It would appear that the nonselective public university represents a greater threat to the community college than the public four-year college: If a student lives within 20 miles of both a community college and a

Table 31

Enrollment in a Community College: Effects of Proximity of Various Types of Public Institutions (Percentages)

	Public 4-year college within 20 miles		No public 4-year college within 20 miles	
Nonselective Public University	2-year college within 20 miles	no 2-year college within 20 miles	2-year college within 20 miles	no 2-year college within 20 miles
Within 20 miles	14	*	07	10
Not within 20 miles	25	12	47	30

*Insufficient N

Note: The effects of being near a nonselective university are maximized when there is no public four-year college nearby.

nonselective public university, the chances of attending the community college are only 7%. Clearly, the effect of living near a nonselective public university is much greater if there is no competing public four-year college in the vicinity.

Enrolling in the First Choice Institution

Table 32 shows how the probability of enrolling in the first choice institution (as expressed in the 11th grade) changes as a function of proximity to three types of institutions: public four-year colleges, highly selective public universities, and nonselective Catholic colleges. In all three instances, living near such institutions reduces the student's chances of enrolling in the first choice college by about half. Table 33 shows how the student's chances of enrolling in the first choice institution are related to the proximity of three other types of private colleges.* Living near alot of middle and highly selective private colleges decreases the students' chances of enrolling in their first choice institutions by about two-thirds. The relationship for low selectivity private colleges is in the same direction, although the magnitude of the effect is somewhat smaller than for the middle and highly selective colleges.

Why should students have a better chance of implementing their early choices if there are few rather than many public and private higher educational institutions located nearby? One possibility is that, as the time approaches to make a final decision about where to attend college, students might be tempted to change their choice to a local institution because of the convenience and low cost of commuting. The same temptation does not

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*It was necessary to present these findings in a separate table because the scale (number of institutions) was different from the scale used for the measures shown in Table 32 (distance in miles).

Table 32

Enrolling in the First Choice Institution (from 11th grade) As a Function of Proximity to Three Types of Institutions

Distance from Home To Institutional Type	Percent Entering First Choice by Institutional Type		
	Public four-year	Highly Selective Public University	Low Selectivity Catholic four-year
1 to 20 miles	36.3	26.8	36.6
21 to 50 miles	39.6	30.1	45.0
51 to 125 miles	55.1	40.9	46.6
126+ miles	61.2	47.4	50.2

Table 33

Enrollment in the First Choice Institution (from 11th grade)
As a Function of Proximity to Three Types of Private Colleges

Number of Colleges Type Within 25 Miles of the Students Home	Percent Entering First Choice by Number of		
	Low Selectivity Private Colleges	Mid Selectivity Private Colleges	High Selectivity Private Colleges
0 colleges	50.0	48.1	48.1
1 college	44.9	45.0	40.0
2 colleges	43.8	39.0	36.0
3 to 4 colleges	46.0	36.6	35.8
5 to 7 colleges	38.7	35.0	23.6
8 or more colleges	34.7	14.9	13.6

exist for students who have no local institutions to attend. Another interpretation is that students will be more likely to change their early choices if there are many institutions to choose from.

Tuition

Is the cost of the college attended related to the proximity of various institutional types? Table 34 shows the average cost of the college attended as a function of the number of middle and low selectivity institutions within 25 miles of the student's home. Students with many such colleges near home end up paying an average of $500 to $600 more in tuition and fees than students with few such institutions close to home. Since the proximity of private institutions does not affect the decision to enroll at a private institution (Table 30), it cannot be argued that students will attend higher cost institutions simply because these institutions happen to be located in their neighborhoods. Other more subtle factors may be operating here. One possibility is that public and private tuition may be greater in those regions where there are relatively large numbers of private institutions.

Predominantly Black Institutions

The largest coefficients in Table 30 are associated with selecting a predominantly Black institution. Apparently, of the various choice outcomes examined in this study, selecting a black college is more dependent than any other on where the student lives. Table 35 shows the probability of entering a preominantly Black institution as a function of distance to public and private Black institutions. The relationships are truly striking: Students who live

Table 34

Tuition of the College Entered as a Function of Proximity to Three Types of Private Institutions

Number of College Types Within 25 Miles of the Students Home	Mean Tuition by Number of		
	Low Selectivity Private Colleges	Middle Selectivity Private Colleges	Low Selectivity Protestant Four-Year Colleges
0 colleges	796	907	979
1 college	1019	1150	1035
2 colleges	1108	1093	1106
3 colleges	1026	1136	1007
4 colleges	1010	1323	1067
5 colleges	1065	1336	1290
6 colleges	1104	1473	1300
7 or more colleges	1292	1517	1510

Table 35

Probability of Enrolling in a Predominantly Black Institution As a Function of Public and Private Predominantly Black Institutions

Distance from Home to College Type	Percent Entering by Institutional Type	
	Private Black	Public Black
1 to 10 miles	9.3	6.3
11 to 20 miles	5.4	2.9
21 to 50 miles	3.2	4.9
51 to 75 miles	4.4	3.1
76 to 125 miles	1.7	2.1
126 to 300 miles	1.2	.8
300+ miles	.6	.3

within 10 miles of a predominantly Black institution are more than ten times more likely to enroll in such an institution than are students who live more than 300 miles away. These results show clearly that the predominantly Black institutions rely heavily on their local clientele and the relatively few Black students who do not live near predominantly Black institutions choose such institutions.

The University

The regression in which entry to a university was the dependent variable did not produce a significant weight for proximity to a selective public university, the weight for proximity to a nonselective public university, however, was substantial. The results (Table 36) show clearly that students are much more likely to attend a university if they live near a nonselective public university. Specifically, students who live within 10 miles of such an institution are nearly four times as likely to attend a university as are students who live more than 300 miles away.

Religious Institutions

Results of the regression analysis for attending a religiously-affiliated institution produced a substantial weight for proximity to a community college. Table 37 shows the probability of enrolling in a religious institution as a function of miles to the nearest public two-year college. Students who live more than 125 miles away from a public two-year college have double the chance of attending a religious institution as do students who live within 20 miles of a public two-year college. Once again, these data document the competitive nature of institutional types: Could it be that the massive expansion of community colleges during the past 15 years has contributed to the problems experienced by many religious colleges in maintaining their enrollments?

Table 36

Probability of Enrolling in a University As a Function of Proximity to a Nonselective Public University

Distance from Home to Nearest Nonselective Public University	Percent Entering a University
1 to 10 miles	53.1%
10 to 20 miles	44.1
21 to 50 miles	39.2
51 to 75 miles	27.3
76 to 125 miles	32.1
126 to 300 miles	18.0
300+ miles	13.7

Table 37

Enrollment in a Religious Institution as a Function of Proximity to a Public Two-year College

Distance from Home to Nearest Public Two-year College	Percent Entering a Religious College
1 to 10 miles	7.3%
10 to 20 miles	7.5
21 to 50 miles	9.7
51 to 125 miles	15.7
126+ miles	18.2

Distance from Home

Are students more likely to implement their early institutional choices if these institutions are located relatively near home? Results of virtually every regression analysis show clearly that the distance to the students' early choices is a major factor in whether they are able to implement these choices two years later. Table 38 shows how the distance of the first choice from the student's home predicts whether students actually implement that choice two years later. The coefficients show a remarkable degree of consistency across subgroups. Clearly, regardless of the students' sex, race, ability, or family income, they are substantially more likely to enter the college preferred in the 11th grade if that college is located relatively near home.

Table 38

Probability of Enrolling At First Choice Institution (11th grade) As a Function of Distance From Home

	Effects of Distance on Enrolling	
	zero-order correlation*	final Beta weight**
All students	-18	-12
Men	-15	-08
Women	-16	-03
Blacks	-18	-08
White	-16	-12
Low ability	-16	-09
Middle ability	-19	-13
High ability	-17	-10
Very high ability	-14	-09
Low income	-15	-07
Middle income	-17	-11
High income	-20	-11
Very high income	-17	-12

*Point biserial correlation

**After controlling for student characteristics, other 11th grade choice measures, environmental characteristics, and state measures.

Chapter 6

Impact of State Programs

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Analyses of individual states and of state program characteristics relied heavily on the special subsample of 1,000 students from each state. Although the effects of state measures were also examined using other files, the 50,000 subject file -- covering the 11th grade to 12th grade interval -- was the only one which weighted each state equally. Analyses involving other longitudinal files would, of course, give the more populous states disproportionately large weights.

How Important is Early Choice?

The first task was to determine whether the results based on students who expressed no 11th grade choices would be similar to the results using students with choices. An inspection of simple (zero-order) correlations suggested a very similar pattern for the two groups. The partial correlations obtained after controlling for student and environmental characteristics, however, were sometimes quite different. For the most part these discrepancies could be attributed to the inclusion of 11th grade choice information in one regression but not in the other. In other words, when 11th grade choice data were excluded altogether, results obtained from the two samples were nearly identical.

Table 39 provides an illustration of how 11th grade choice information affects the results. The dependent variable selected for this example is the mean tuition and fees of the student's 12th grade choice set. The first two columns show the simple correlations of this outcome with dummy variable measures of individual states. (only those states producing the largest correlations are shown.) Notice that the coefficients are very similar, never differing by more than .02.

Table 39

Effects of Controlling for Initial Choice on Relationships Involving State Variables

State	Zero-Order Correlation With Tuition & Fees of 12th Grade Choice Set		Partial Correlation With Tuition & Fees of 12th Grade Choice Set	
	Sample without 11th grade choice	Sample with 11th grade choice	Sample without 11th grade choice	Sample with 11th grade choice
Connecticut	.08	.06	.08	.00
Florida	.02	.02	.05	.00
Maine	.04	.03	.06	.00
Massachusetts	.06	.06	.05	.00
New Hampshire	.09	.08	.12	.04
Rhode Island	.07	.07	.09	.00
Vermont	.08	.08	.08	.03
California	-.06	-.04	-.06	-.08
Hawaii	-.09	-.10	-.06	-.06
Kansas	-.06	-.06	-.05	-.06
Michigan	-.01	-.01	-.04	-.03
New Mexico	-.04	-.04	.00	-.05
North Dakota	-.04	-.03	-.02	-.04
Texas	-.07	-.05	-.04	-.05

The last two columns show the partial correlations obtained by controlling for student personal characteristics, higher education environment characteristics and -- for one sample only -- 11th grade choices. The correlations from the sample without 11th grade choices show little change; if anything, the partial correlations tend to be slightly larger than the simple correlations. In the sample with 11th grade choices, however, many of the simple correlations shrink to nonsignificance and most others are diminished in size. These results show that changes in choice patterns between 11th and 12th grade do not always follow the distribution of choices observed in 11th grade. For example, in both samples, students from Connecticut are more likely than students in general to pick institutions with relatively high tuition and fees in the 12th grade (simple correlations of .08 and .06 respectively). Controlling for student personal characteristics and environmental characteristics does not change the correlation among students without 11th grade choices. By contrast, the correlation disappears when 11th grade choices are controlled in the other sample. In other words, although students in the 12th grade in Connecticut are more likely to opt for relatively high cost institutions, changes between the 11th and 12th grade in this state do not follow the same pattern. Similar conclusions can be drawn for Florida, Maine, Massachusetts, and Rhode Island. Among students from New Hampshire and Vermont, the zero-order correlations are attenuated by controlling for 11th grade choices but not eliminated altogether. Controlling for 11th grade choices does not appear to have as much of an effect in states where students tend to choose relatively low cost institutions (negative correlations shown in Table 39).

Since these comparative analyses of the two student subsamples clearly demonstrate the importance of having 11th grade choice data, a decision was made to limit the primary analysis of state effects to the sample for which 11th grade choices were available.

Importance of Personal and Geographic Factors

The relationships between individual state measures and certain choice outcomes could also be affected by controlling for student characteristics and higher education environment measures. A good case in point is choosing a predominantly Black institution in the 12th grade. Results with this choice outcome are shown in Table 40. The first column of coefficients shows the simple correlations between this choice outcome and individual state measures. A positive correlation means simply that the state is one where relatively large proportions of students choose predominantly Black colleges in the 12th grade. A negative coefficient means that relatively few students pick Black colleges in that state.

The second column of coefficients shows the partial coefficients obtained by controlling for the 11th grade choice "pretest" (Black versus nonblack college). The next column shows the correlations after controlling for this pretest measure plus the student's race. The final column shows the coefficients after controlling for 11th grade choice, race, and distance to the nearest Black institution. Note that some of the correlations (Alabama, District of Columbia, Mississippi, and South Carolina) remain positive and statistically significant throughout these various stages of control. However, in several other states (Delaware, Georgia, Louisiana, and North Carolina) controlling for these other characteristics changes the correlations substantially. In Delaware and North Carolina, the significant preference for Black colleges disappears after distance from home to the nearest Black college is controlled. Apparently, student preferences for Black colleges in these two states (significant zero-order correlation)

Table 40

State Relationships to Choosing a Black College in Twelfth Grade: Effects of Controlling Various Independent Variables

state	zero order correlation	Partial Correlation After Control of		
		11th grade choice of black college	11th grade choice plus student race	11th grade choice plus race plus distance to black college
Alabama	.081**	.041**	.023**	.013*
Delaware	.016**	.015*	.018**	.001
D.C.	.211**	.119**	.031**	.018**
Florida	.012*	.013*	.016**	.015*
Georgia	.024**	.002	-.003	-.010
Louisiana	.069**	.032**	.010	-.005
Maryland	.002	-.005	-.009	-.021**
Mississippi	.091**	.051**	.035**	.025**
North Carolina	.040**	.020**	.019**	.006
South Carolina	.073**	.033**	.030**	.024**
Arkansas	-.014*	.006	.017**	-.011
Idaho	-.024**	-.012*	-.001	.004
Kentucky	-.012*	-.006	-.003	-.012*
Missouri	-.017**	-.015*	-.027**	-.021**
Ohio	-.012*	-.011	-.011	-.015*
Oklahoma	-.018**	-.010	-.005	-.014*
Tennessee	-.005	-.008	-.014*	-.022**
Texas	-.019**	-.012*	-.010*	-.016**
Utah	-.025**	-.013*	-.033**	.033**

* $p < .05$
**$p < .01$

is attributable solely to the relatively close proximity of Black colleges to the students' homes in these states. In the case of Louisiana, the preference for predominantly Black institutions appears to be attributable primarily to the high concentration of Blacks in the state. Once the student's race is controlled, the correlation shrinks to nonsignificance (i.e., from .032 to .010).

Perhaps the most interesting pattern of changes is associated with the state of Maryland. A very small positive but nonsignificant zero-order correlation (.002) becomes significantly negative once the distance from students' homes to predominantly Black institutions are controlled. This means that fewer Maryland students change their choices to Black colleges than would be expected from the proximity of such colleges to the students' homes. Apparently, Black students in Maryland tend to avoid predominantly Black institutions as they change their choices between the 11th and 12th grades. A similar result occurs in Tennessee, where a nonsignificant simple correlation (-.005) becomes significantly negative (-.022) after controlling for the student's race and distance from home to the nearest Black college.

Another interesting reversal occurs in the state of Utah. Significantly fewer students than average in the state of Utah pick predominantly Black colleges in the 12th grade. This correlation remains significant and positive after 11th grade choices and the student's race are controlled. However, once the distance from the student's home to the nearest Black college is controlled, the coefficient becomes significantly positive. This means that Black students in Utah actually attend predominantly Black colleges at a greater-than-expected rate, given the substantial distance of that state from the nearest Black college.

Once again, the results in Table 40 dramatize the importance of controlling for early chocies, student personal characteristics, and environmental characteristics in attempting to isolate the effects of particular states on student choice.

Measures of State Characteristics

Preliminary regressions using all measures of state financial aid program characteristics produced rather bizarre findings: Many state measures produced large regression weights of opposite sign to their zero-order correlations. A closer inspection of these findings revealed that the problem was caused primarily by an extremely high degree of collinearity among many of the state measures. The problem was exacerbated, of course, by the small number of degrees of freedom (N=50) associated with any measure of state characteristics. To ameliorate this problem, a cluster analysis of state measures from fiscal year 1975 was undertaken in order to identify those measures that were highly redundant with other state measures. Removing these redundant measures would result in a smaller set of state measures that had minimal collinearity. The cluster analysis resulted in a decision to retain seven measures of state financial aid program characteristics, each of which was expressed on a dollars per student basis: College Work Study Program (CWSP), Supplementary Educational Opportunity Grant (SEOG), Guaranteed Student Loan (GSL), Basic Educational Opportunity Grant (BEOG), State Student Incentive Grant (SSIG), total federal grants, and total state aid.

Before discussing the relationships between these measures and various student choice outcomes, it may be useful to identify states which tended to score at the extremes on each measure. Table 41 shows how the first measure -- College-Work-Study funds per student -- correlates with various state dummy

Table 41

College Work-Study Funds Per Student: Extreme States and Effects on Choice

High CWS Dollars Per Student		Low CWS Dollars Per Student	
Highest States	Correlation* with State Aid per Student	Lowest States	Correlation* with State Aid per Student
Alabama	.16	Arizona	-.16
Arkansas	.35	California	-.17
Maine	.37	Utah	-.21
Mississippi	.32		
Montana	.47		

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[*] Point-biserial correlations between state aid per student and the individual state (scored as a dummy variable).

variables. (Only those states producing the largest positive or negative point-biserial correlations are shown.) Montana apparently has the largest amount of CWSP funds per student, followed closely by Mississippi, Maine, and Arkansas. States with the smallest per student amounts of CWSP funds are Utah, California, and Arizona. The fact that the positive correlations are substantially larger than the negative correlations indicates that the distribution of CWSP funds is positively skewed across the states, with a few states (those showing the largest positive coefficients) having a disproportionately large share.

Table 42 shows similar data for the second state measure, SEOG dollars per student. Maine leads all of the states by a good margin (point-biserial correlation = .49) in the amount of these finds it receives on a per student basis. Nevada apparently receives the fewest SEOG dollars per student. Once again, the distribution is positively skewed.

Results for the third state measure, GSL dollars per student, are shown in Table 43. One state -- Illinois -- stands out clearly from the rest, with a point-biserial correlation of .63. Given the constraints imposed on the maximum possible size of the point-biserial by the small proportion of students accounted for by any one state (about 2% of the total student sample), this coefficient is remarkable. Pennsylvania and Connecticut also receive substantially more GSL dollars per student than most other states, whereas North Carolina receives the fewest GSL dollars per student. Except for the three states receiving the most GSL dollars (Illinois, Pennsylvania, and Connecticut), the distribution of GSL dollars across states appears to be relatively symmetrical.

The fourth state financial measure -- BEOG dollars per student -- is shown in Table 44. Once again, a single state -- Mississippi -- shows up with an inordinately large per student allocation (point-biserial r = .57).

Table 42

SEOG Dollars Per Student
Extreme States and Effects on Choice

High SEOG Dollars Per Student		Low SEOG Dollars Per Student	
Highest States	Correlation[*] with State Aid per Student	Lowest States	Correlation[*] with State Aid per Student
Alaska	.29	Florida	-.11
District of Columbia	.24	Hawaii	-.12
Maine	.49	Nevada	-.16
Minnesota	.24	South Carolina	-.12
Mississippi	.22	Virginia	-.11
North Dakota	.22		
South Dakota	.31		
Vermont	.21		
Wisconsin	.26		

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[*] Point-biserial correlations between state aid per student and the individual state (scored as a dummy variable).

Table 43

GSL Dollars Per Student: Extreme States

Highest GSL Dollars Per Student		Lowest GSL Dollars Per Student	
Highest States	Correlation* with State Aid per Student	Lowest States	Correlation* with State Aid per Student
Connecticut	.27	Arkansas	-.13
Illinois	.63	Idaho	-.13
New Jersey	.18	North Carolina	-.16
New York	.17	Oklahoma	-.13
North Dakota	.16	Utah	-.15
Pennsylvania	.33		
South Dakota	.18		

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*Point-biserial correlations between state aid per student and the individual state (scored as a dummy variable).

Table 44

BEOG Dollars Per Student: Extreme States

High BEOG Dollars Per Student		Low BEOG Dollars Per Student	
Highest States	Correlation[*] with State Aid per Student	Lowest States	Correlation[*] with State Aid per Student
Alabama	.25	Arizona	-.16
Arkansas	.21	Hawaii	-.22
Kentucky	.17	Nevada	-.16
Louisiana	.17	Utah	-.27
Mississippi	.57	Wisconsin	-.15
New Mexico	.21		
South Dakota	.23		

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[*] Point-biserial correlations between state aid per student and the individual state (scored as a dummy variable).

Utah and Hawaii apparently receive the fewest BEOG dollars per student. With the exception of Mississippi, the distribution of BEOG dollars across states appears to be fairly symmetrical.

Table 45 shows the distribution of SSIG dollars. States receiving the largest amounts of SSIG funds per student include the District of Columbia, California, Illinois, and Michigan. Louisiana, Alabama, and Arizona received the fewest dollars. Here we have a case where the distribution shows a pronounced negative skew, with a sizable number of states receiving very low per student allocations of SSIG funds.

The sixth state financial aid measure, total federal grant dollars per student, is shown in Table 46. Maine, Mississippi, and South Dakota receive the largest per student amounts of federal grant money, whereas Hawaii, Arizona, and Nevada receive the fewest grant dollars per student. Not surprisingly, total federal grant dollars follows somewhat the same pattern as BEOG dollars (Table 44). BEOG dollars, of course, make up a substantial amount of the total federal grant money received by each state.

The final state financial aid measure is the total state aid dollars per student (Table 47). New York has by far the most generous aid program, followed by Pennsylvania, New Jersey, and Illinois. A number of states fall at the lowest end of the distribution, although it should be noted that the negative coefficients are substantially smaller than the positive coefficients (i.e., the distribution is positively skewed). Apparently, while most states have no program or only very modest aid programs, a few have invested very heavily in student financial aid. It is also worth noting that those states with the most generous financial aid programs have strong private higher educational systems and, with the exception of Illinois, are located in the

Table 45

SSIG Dollars Per Student: Extreme States and Effects on Choice

High SSIG Dollars Per Student		Low SSIG Dollars Per Student	
Highest States	Correlation* with State Aid per Student	Lowest States	Correlation* with State Aid per Student
California	.14	Alabama	-.43
District of Columbia	.19	Alaska	-.26
Illinois	.11	Arizona	-.41
Michigan	.11	Hawaii	-.38
		Idaho	-.23
		Louisiana	-.45

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*Point-biserial correlations between state aid per student and the individual state (scored as a dummy variable).

Table 46

Total Federal Grant Aid Per Student: Extreme States and Effects on Choice

High Total Federal Grant Dollars Per Student		Low Total Federal Grant Dollars Per Student	
Highest States	Correlation[*] with State Aid per Student	Lowest States	Correlation[*] with State Aid per Student
Alaska	.19	Arizona	-.20
District of Columbia	.21	Hawaii	-.24
Maine	.43	Nevada	-.20
Minnesota	.22		
Mississippi	.37		
New Mexico	.17		
North Dakota	.20		
South Dakota	.35		
Wisconsin	.19		

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[*] Point-biserial correlations between state aid per student and the individual state (scored as a dummy variable).

Table 47

State Aid Dollars Per Student: Extreme States and Effects on Choice

High State Aid Per Student		Low State Aid Per Student	
Highest States	Correlation[*] with State Aid per Student	Lowest States	Correlation[*] with State Aid per Student
Illinois	.30	Arkansas	-.09
New Jersey	.34	Idaho	-.09
New York	.58	Kentucky	-.09
Pennsylvania	.44	Louisiana	-.09
Vermont	.19	Mississippi	-.10
		Nebraska	-.09
		New Mexico	-.09
		North Carolina	-.09
		Oklahoma	-.09
		Utah	-.10

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[*] Point-biserial correlations between state aid per student and the individual state (scored as a dummy variable).

Northeastern United States. Further, those states with the weakest aid programs are, with the exception of Idaho and Utah, all located in the South or Southwest.

State Measures and Choice Outcomes

Because of the uneven distribution of students across states in the two-year longitudinal sample (11th grade-college entry), results concerning the effects of state programs on student choice outcomes will focus on the one-year longitudinal sample (11th grade-12th grade) in which approximately 1,000 students were selected from each state. Table 48 shows the partial correlations between the seven measures of state financial aid program characteristics and nine choice outcomes. Only statistically significant ($p < .01$) coefficients are shown. It should be stressed that these partial correlations were obtained after student personal characteristics, 11th grade choices, and higher education environment characteristics had been controlled. Partial correlations which were replicated in the two-year longitudinal analyses are indicated with triple asterisks (***).

SEOG and GSL programs show similar patterns of effects: Students in states with relatively large SEOG and GSL allocations are likely to change their choices in the direction either of selective and costly private institutions or of selective public universities. Seven of the eight partial correlations involving these choice outcomes are corroborated by the two-year longitudinal analysis. BEOG programs at the state level, however, show a very different pattern of relationships. Students in states with large per student BEOG allocations shift their choices toward nonselective, low cost public institutions (the one exception being the selective public universities,* which are avoided by these students). SSIG allocations at the state level show a pattern similar to the one for SEOG and GSL, except that high SSIG allocations are associated with choosing a college close to home. GSL showed no relationship to distance from home and SEOG was associated with attending college *far* from home.

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*Results for selective public universities may, to some extent, be an artifact of the state's higher education program: Some states simply have no selective public universities.

The next series of six tables summarizes the effects of *individual* states and state *program characteristics* on six selected choice outcomes. Again, the data are from the one-year 11th-12th grade longitudinal file with approximately 1,000 students per state. Before discussing specific findings, it should be mentioned that two sets of analyses were run using this file. In the first set, measures of *individual states* were allowed to enter the regression until no additional state produced a significant reduction in the residual sum of squares. In the second set of analyses, state program characteristics were allowed to compete with individual state measures. In these latter analyses, some of the individual state measures did not enter the regression because their effects disappeared after certain measures of state program characteristics entered. These states are marked in the tables by a single asterisk. Effects of state aid program characteristics that were confirmed in the two-year longitudinal analysis (11th grade to college entry) are indicated by a double asterisk.

Table 49 shows the state variables that were associated with choosing a private institution in the 12th grade, after controlling for student characteristics, 11th grade choices, and characteristics of the higher education environment. The clusters of states that are positively and negatively associated with choosing a private institution show no particular geographical pattern. However, it should be noted that the positive effects of three states (Connecticut, Florida, and Rhode Island) and the negative effects of one state (Mississippi) disappear after state aid program characteristics are controlled.

Table 48

Impact of State Financial Aid Program Characteristics on 12th Grade Choice Outcomes

(N=50,000 students* tested in 11th grade and followed up in 12th grade)

	Partial Correlation** With Choice Outcome								
	Religious Institutions	2-year college	Selective Public University	Selective Private Institution	Nonselective Private Institution	Private Institution	High Cost Institution	Selective Institution	Distance from home to college
CWSP dollars/student	.02	--	-.04	--	-.02***	-.03***	--	--	-.03***
SEOG dollars/student	--	.02	.07***	--	--	.02***	.06***	.07***	.05
GSL dollars/student	--	--	.03	--	--	.03***	.03***	.06***	--
BEOG dollars/student	.02	.02***	-.06***	.02***	--	-.04	-.04***	-.06***	-.07***
SSIG dollars/student	.03***	--	.05***	-.02***	.03***	.03***	.04***	--	-.06***
Federal grant dollars/student	.02***	.03***	.05	--	.02	--	.05***	--	.02
State Aid dollars/student	--	--	.18	-.04	-.02	--	--	--	-.06***

* Approximately 1,000 students per state.

** After control for personal characteristics, 11th grade choices, and higher education environment characteristics.

*** Confirmed in 2-year longitudinal analyses (11th grade to college entry).

Table 49

Choosing a Private Institution in 12th Grade
Effects of State Variables

Positive (private choice)	Negative (public choice)
States	
District of Columbia (11,04)	California (-02,-04)
Connecticut*	Delaware (-02,-03)
Florida*	Kansas*
Minnesota*	Mississippi*
New York*	New Jersey (04, -03)
Rhode Island*	
Utah (03,05)	
Washington (05,02)	
State Aid Program Characteristics	
SEOG/student**	BEOG/student
GSL/student	CWS/student**
SSIG/student**	

*Effect disappeared when characteristics of state programs (above) were controlled.

**Effect confirmed in two-year longitudinal analysis.

NOTE: Coefficients in parentheses show zero-order and final partial correlations, respectively (decimals omitted).

State characteristics related to the mean distance of the 12th grade choice set from the student's home are shown in Table 50. Here the positive states form a clear-cut pattern: With the exception of Florida, all states where the students tend to switch their choices to more distant institutions between the 11th and 12th grades are West of the Mississippi and sparsely populated. Most of them are very large geographically and have relatively small populations. All six states in which students tend to switch to colleges closer to home between the 11th and 12th grades are East of the Mississippi and densely populated. None of these state effects -- either positive or negative -- disappears when the effects of state aid program characteristics are controlled.

Although it would hardly be surprising to find that the students in the ten states with positive effects (Table 50) attend college far from home, it is significant that changes in choice between 11th and 12th grade would follow the same trends, even after controlling for the geographic proximity of various types of institutions. The explanation for these trends may lie in the low density of institutions in these states. Let us assume, for example, that for most students in these states there is only one institution (typically a public two- or four-year college) near home. If an 11th grade student lists that institution as a first choice but subsequently changes his or her mind in the 12th grade, the new choice will almost certainly be farther from home simply because there are not likely to be any alternatives near home. On a subtler level, many 11th graders who grow up in states with relatively few colleges are probably not aware of higher education options beyond the local public college. Students in the states showing negative effects, on the other hand, are more likely to have several alternatives

Table 50

Distance from Home of 12th Grade Choice Set:
Effects of State Variables

Positive (far from home)	Negative (close to home)
States	
Alaska (17, 07)	Delaware (-04, -02)
Arizona (05, 03)	District of Columbia (-02, 04)
Colorado (03, 03)	Massachusetts (-08, -04)
Florida (07, 04)	Rhose Island (-10, 03)
Hawaii (08, 10)	New Jersey (-04, -02)
Nevada (06, 04)	New York (-03, -02)
New Mexico (08, 05)	
Montana (07, 05)	
North Dakota (03, 03)	
Washington (09, 05)	
State Aid Program Characteristics	
SEOG/student	CWS/student**
	SSIG/student**
	BEOG/student**
	State aid/student**

*Effect disappeared when characteristics of state program (above) were controlled.

**Effect confirmed in two-year longitudinal analysis.

NOTE: Coefficients in parentheses show zero-order and final partial correlations, respectively (decimals omitted).

equally near home. For these students, changing their early choice would not necessarily force them to opt for a more distant institution.

State variables associated with the selectivity of the student's 12th grade choice set are shown in Table 51. Once again, states within each cluster show certain characteristics in common. With the exception of Wisconsin, all states showing positive effects on selectivity of the choice set have substantial public and private institutional systems and are located in the Northeast. By contrast, all of the states with negative effects are located in the South. These patterns of state differences may occur because public institutions in the states with positive effects tend to be more selective than the public institutions in the states with negative effects. Thus, if students change from a private to a public choice between the 11th and 12th grades, the selectivity of the choice set will be more likely to decline in those states with relatively few selective public institutions. Another possible explanation is that students in the South may have unrealistically high aspirations, in terms of the institutional selectivity, in the 11th grade. This fact would cause a substantial negative change in the selectivity of choices as the time to make more realistic final choices approaches.

Still another interpretation relates to the types of higher educational systems in the two clusters of states (Table 51). Although both groups have substantial public and private systems, only the negative states have predominantly Black institutions (which tend to score very low on selectivity). Students who change their choices between 11th and 12th grade probably have more options of low selectivity in the Southern states than in the other groups of states.

It is also worth pointing out that the effects of five of the individual states shown in Table 51 disappear when characteristics of state programs are controlled. The largest reduction was caused by controlling for BEOG dollars per student. Whether this can be regarded as a direct effect of large infusions of BEOG money cannot be determined from correlational data of this type. For example, one could argue that, since nonselective institutions are much more likely to enroll poor students than selective institutions, even within the private sector (Astin and Lee, 1971), institutions would attract more BEOGs money simply because they enroll more poor students.

Table 52 shows state effects on the average cost of the colleges preferred in 12th grade. Once more, the two clusters of states show distinctive differences. States in which students change toward relatively costly choices between 11th and 12th grade are heavily concentrated in the Northeast and Midwest. In fact, the list of positive states includes every New England state and all middle Atlantic states except Maryland and New Jersey. A distinguishing characteristic of these states is their very strong private systems of higher education and their relatively costly public systems. States with negative effects all have very strong public systems of higher education and generally low levels of public tuition.

It is also of interest that the positive effects of most (13 of the 17) of the states in Table 52 disappear when state program characteristics are controlled. Thus, when SEOG, GSL, SSIG, and BEOG measures are allowed to enter the equation, the "effects" of all but four of the 17 individual states disappear. States receiving large allocations of SEOG, GSL, and SSIG money encourage student attendance at relatively high cost institutions, and states receiving relatively large allocations of BEOG money encourage attendance at low-cost institutions.

State variables associated with choosing a religious institution are shown in Table 53. With the exception of the four large midwestern states in the list of institutions having positive effects (Iowa, Michigan, Minnesota, and Ohio), there does not appear to be any geographic or demographic pattern to the positive and negative clusters of states. It may be worth pointing out that (a) these four midwestern states have numerous religiously affiliated institutions in their systems, and (b) none of these four states' effects disappears when state program characteristics are controlled.

The final table in this set (Table 54) shows state variables associated with choosing a two-year college in the 12th grade. The two clusters of states show no particular pattern. Further, the partial correlation coefficients are relatively small: Three of six positive correlations disappear when state program characteristics are controlled. The positive association between BEOGs dollars per student and choosing a two-year college is not surprising, given that BEOGs is also related to choosing public institutions (Table 49), institutions close to home (Table 50), nonselective institutions (Table 51), and low cost institutions (Table 52). The possible significance of these findings is discussed in more detail in the next chapter.

Patterns of State Effects

The complexity of the findings concerning the effects of state characteristics prompted a decision to perform a series of factor analyses to identify patterns of states and state characteristics that might provide a better basis for interpreting the results. These factor analyses utilized the state as the unit of analysis (N=51 states, including the District of Columbia) and included the following 33 state-level variables: Mean student residual

Table 51

Selectivity of 12th Grade Choice Set: Effects of State Variables

Positive (Selective)	Negative (Nonselective)
States	
Maine*	Arkansas (-09, -04)
New York (08, 02)	Louisiana (-12, -05)
Pennsylvania (05, 02)	Mississippi*
Vermont (06, 02)	Oklahoma (-08, -04)
Wisconsin*	South Carolina*
	West Virginia*
State Aid Program Characteristics	
SEOG/student**	BEOG/student**
GSL/student**	

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*Effect disappeared when characteristics of state program (above) was controlled.

**Effect confirmed in two-year longitudinal analysis.

NOTE: Coefficients in parentheses show zero-order and final partial correlations, respectively (decimals omitted).

Table 52

Tuition and Fees of 12th Grade Choice Set: Effects of State Variables

Positive (High cost)	Negative (Low costs)
States	
Connecticut*	California (-03, -02)
Delaware (03, 03)	Hawaii (-04, -02)
District of Columbia*	Kansas (-06, -02)
Florida*	Texas (-08, -02)
Illinois*	
Indiana*	
Maine*	
Massachusetts*	
Minnesota*	
New Hampshire (09, 06)	
New York (12, 07)	
Ohio*	
Pennsylvania*	
Rhode Island*	
Vermont (09, 07)	
Washington*	
Wisconsin*	
State Aid Program Characteristics	
SEOG/student**	BEOG/student**
GSL/student**	
SSIG/student**	
Total federal aid/student	

*Effect disappeared when characteristics of state program (above) was controlled.

**Effect confirmed in two-year longitudinal analysis.

Note: Coefficients in parenthesis show zero-order and final partial correlations, respectively (decimals omitted).

Table 53

Choosing a Religious College in 12th Grade
Effects of State Variables

Positive	Negative
States	
Alaska (02, 02)	Delaware*
Arkansas*	District of Columbia*
Iowa (05, 06)	Louisiana (-03, -03)
Michigan (00, 03)	Maine (-02, -01)
Minnesota (07, 08)	Utah*
Montana*	
Ohio (02, 03)	
South Carolina*	
Washington (03, 05)	
State Aid Program Characteristics	
BEOG/student	
SSIG/student**	
Grant dollars/student**	
CWS dollars/student	

*Effect disappeared when characteristics of state programs (above) were controlled.

**Effect confirmed in two-year longitudinal analysis.

NOTE: Coefficients in parentheses show zero-order and final partial correlations, respectively (decimals omitted).

Table 54

Choosing a Two-Year College in 12th Grade
Effects of State Variables

Positive	Negative
States	
District of Columbia*	Delaware (-03, -03)
Georgia*	Wisconsin (-03, -02)
Idaho (04, 02)	
Kansas*	
Michigan (01, 02)	
Mississippi (08, 05)	
State Aid Program Characteristics	
BEOG/student **	
SEOG/student	
Grant dollars/student**	

*Effect disappeared when characteristics of state programs (above) were controlled.

**Effect confirmed in two-year longitudinal analysis.

NOTE: Coefficients in parentheses show zero-order and final partial correlations, respectively (decimals omitted).

scores on 11 different choice outcomes,* 13 mean measures of the higher education environment, six measures of the state financial aid program, state unemployment rate, average weekly earnings in the state, and a dummy variable indicating whether or not state financial aid is portable across state lines. Several factor analytic approaches were attempted in order to identify the most plausible simple structure. The 33 x 33 correlation matrix was factored using the principal axes method with rotation to orthogonal simple structure by the Varimax method. The most readily interpretable rotated factor matrix was obtained with five factors.

Table 55 shows the variables defining each factor and the states with the highest and lowest factor scores. Since the primary interest is to identify groups of states rather than simply to label the factors, the table refers to "clusters" rather than "factors." Except for the first cluster, the only states shown are those with factor scores deviating at least ± 1.0 standard deviation from the mean of all states.

The first cluster might be labeled "strength of the private higher educational system." The principal variables defining this cluster are a large number of private institutions and a strong state aid program. Most of the states with high scores cluster are located in the Northeast, whereas states with the lowest scores on this cluster are scattered across the country. It is of some interest that nonselective public universities tend to be found in states with relatively weak private systems. Could it be that nonselective public universities compete with private institutions for state

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*Each student's residual score on each choice outcome consisted of the actual 12th grade choice measure minus the "expected" measure ($\hat{Y}$) based on 11th grade choice, student personal characteristics, and the higher education environment.

Table 55

Clusters of States With Similar Effects on Choice and Similar Financial Aid Programs

			States With Largest	
Cluster	Variables Defining Cluster*	Factor Loading	Positive Scores** on cluster	Negative Scores** on cluster
I	Many state aid dollars per student	(.73)	N.J. (3.8)	Tenn. (-1.0)
	Many federal GSL dollars per student	(.47)	N.Y. (3.1)	Utah (- .9)
	State aid has portability	(.45)	Mass. (2.7)	Hawaii (- .8)
			Ill. (2.2)	N.H. (- .8)
	Many medium selective private colleges	(.97)	Pa. (1.6)	Wyo. (- .8)
	Many highly selective private colleges	(.89)	Del. (1.1)	
	Many nonselective private colleges	(.66)	Ca. (1.0)	
	Many nonselective Protestant colleges	(.74)		
	Few nonselective public universities	(.64)		
	Choose high cost college	(.37)		
II	High unemployment	(.58)	Ala. (5.1)	Pa. (-1.2)
	High percentage of grant dollars in total federal aid	(.58)	Wyo. (1.2)	Ill. (-1.1)
			Nev. (1.1)	Conn. (-1.0)
	Low SSIG dollars per student	(.51)	Utah (1.0)	
	Few selective Catholic colleges	(.81)		
	Few nonselective Catholic colleges	(.45)		
	Few public four-year colleges	(.63)		
	Choose college out-of-state	(.54)		
III	Few BEOG dollars per student	(.86)	Conn. (2.2)	Miss. (-3.0)
			R.I. (1.9)	Ala. (-2.1)
	Choose low selectivity private college	(.50)	N.H. (1.4)	S.D. (-1.6)
	Choose a private college	(.42)	Vt. (1.2)	Ark. (-1.4)
			Utah (1.2)	Ky. (-1.4)
			Nev. (1.2)	Minn. (-1.4)
			D.C. (1.1)	S.C. (-1.2)
			Fla. (1.1)	N.M. (-1.2)
			Mass. (1.1)	
IV	Many SEOG dollars per student	(.65)	Maine (2.7)	Hawaii (-1.6)
	Many GSL dollars per student	(.46)	Vt. (2.1)	S.C. (-1.4)
			S.D. (1.7)	La. (-1.3)
	Few private Black institutions	(.42)	N.H. (1.4)	Mich. (-1.1)
			N.D. (1.2)	N.C. (-1.1)
	Choose a selective institution	(.70)	Wisc. (1.2)	Okla. (-1.1)
	Choose a prestigious institution	(.64)	Minn. (1.1)	Ca. (-1.1)
	Choose a high-cost institution	(.54)	Pa. (1.1)	Utah (-1.0)
	Choose a selective public university	(.55)	Conn. (1.0)	
V	Few public Black institutions	(.51)	Mich. (2.2)	D.C. (-2.4)
			Minn. (1.9)	Miss. (-1.5)
	Choose a religious institution	(.64)	Ca. (1.7)	La. (-1.4)
	Not choose a selective private institution	(.66)	Wisc. (1.6)	Del. (-1.4)
			Iowa (1.6)	Ala. (-1.1)

resources? It is also of interest that state aid programs tend to be portable in states with the stronger private higher educational systems.

The second cluster shown in Table 55 is somewhat more difficult to interpret. The variables defining this cluster include few Catholic colleges, high unemployment rates, high percentages of federal grant dollars, and high percentages of students choosing colleges out of state. Alaska is clearly the prototypic state defining this cluster, together with three other large and sparsely populated states (Wyoming, Nevada, and Utah). States occupying the negative end of this cluster are heavily populated and all located east of the Mississippi River (Pennsylvania, Illinois, and Connecticut).

The third cluster involves virtually all of the New England states, together with Utah, Florida, and the District of Columbia. These states are characterized primarily by the relatively low allocations of BEOG funds and by a substantial number of students who choose private colleges of low selectivity. States with the largest negative scores (high amounts of BEOG funds plus relatively few students choosing nonselective private colleges) include most of the deep South as well as South Dakota, Minnesota, and New Mexico.

The fourth cluster is defined primarily by a preference for selective, prestigious, and high cost institutions and a large concentration of SEOG and GSL dollars. Most of the states with high scores on this factor are located in New England or the upper Midwest, whereas states with low scores are scattered across the country from the deep South to Hawaii. This fourth cluster supports the notion that states with selective and prestigious institutions are successful in acquiring relatively large amounts of SEOG and GSL dollars.

The final cluster shown in Table 55 involves primarily Big Ten states on the positive end, and institutions in the District of Columbia, Delaware, and the deep South on the negative end. States on the positive end have few public Black institutions and tend to encourage choice of a religious institution, whereas states on the negative end show the opposite pattern.

The State "Tuition Gap"

A major issue in postsecondary education financing at the state level concerns the so-called "tuition gap" between the public and private sectors within a state. Supporters of private postsecondary education frequently complain that the private colleges' recruitment efforts are hampered by the cost differential between public and private institutions. According to their argument, students who might otherwise opt for private institutions select public institutions instead because of their lower cost. As a consequence, private institutions have a harder time attracting students. This argument states further that, if state policies could be changed so as to reduce this "tuition gap," the competitive position of the private sector would be protected because more students would opt for private colleges.

Is there any evidence to support these claims? Is student choice affected by the magnitude of the difference between the average cost of public and private institutions? To explore this question, a regression involving the state as the unit of analysis was conducted. This analysis employed the average difference between public and private tuition as the principal independent variable. Different mean residual choice outcomes, aggregated at the state level, were used as the dependent variables. Results of these analyses (Table 56) show that the size of the tuition gap varies substantially from state to state. The largest gap ($1,647) is more than twice as large as the smallest gap ($487). In states with large gaps, students tend to avoid private colleges of low selectivity and to prefer community colleges. (Choosing private colleges of high selectivity was not related to the size of the tuition gap.) That students in states with the largest gaps tend to show the greatest consistency in choice between 11th and 12th grade may mean that changes in choice from public to private (or vice versa) are more likely when comparative costs are not a major issue (i.e., when the gap is small).

These findings suggest that the size of the tuition gap does influence student choice. Specificially, students are more likely to opt for community colleges rather than private colleges of low selectivity if the tuition gap is sufficiently large. The size of the gap thus appears to operate to the disadvantage of private institutions, but only those of low selectivity; the more selective private colleges are apparently unaffected by the size of the gap. This interpretation is consistent with the fact that the nonselective private colleges tend to attract relatively poor students (Astin and Lee, 1971), precisely those students who would be most tempted by the low cost of nonselective public institutions.

Table 56

State "Tuition Gap": Extreme States and Correlations With Change in Choice
(N=50 states)

Extreme States		Choice Variable	Correlation with tuition gap
Highest Gap	(size of gap)		
California	$1,647	Consistency in choice between 11th and 12th grade	.47
Colorado	1,696		
Connecticut	1,662		
D.C.	1,641	Choosing a private college of low selectivity	.36
Maine	1,518		
Massachusetts	1,682		
South Dakota	1,579		
Vermont	1,529	Choosing a community college	.22
Lowest Gap			
Alabama	752		
Arizona	397		
Arkansas	506		
Georgia	847		
Kentucky	796		
Michigan	895		
Mississippi	595		
New Mexico	867		
Oklahoma	632		
Utah	487		

Chapter 7

Basic Educational Opportunity Grants

Chapter 7

Basic Educational Opportunity Grants

This chapter considers the impact of Basic Educational Opportunity Grants (BEOG) on various choice outcomes. The dependent variables (choice outcomes) for these analyses describe the type of college actually entered by the student in the fall of 1975. The principal independent variable was whether or not the student received a BEOG. Control variables consisted of the students' early (11th and 12th grade) choices, personal characteristics, characteristics of the local higher educational environment, and measures of state financial aid program characteristics.

Before discussing specific findings it should be noted that any observed relationship between receipt of a Basic Grant and type of college attended is necessarily ambigious. In the original SISFAP study proposal, it was assumed that any residual* relationship between BEOG and type of college attended could be interpreted as an effect of BEOG on choice, given that students ordinarily know whether or not they are going to receive a BEOG before they make their final decision about what type of college to attend. A closer examination of the grant application process, however, suggests that the student's decision about which college to attend could actually precede the decision to apply for a BEOG. Causality, in other words, might work in the opposite direction. This possibility can be illustrated with a simple example: Suppose a woman student is trying to decide between a small private college and the local community college. If she decides on the local community college, she may not bother to apply for a BEOG because the half-cost provision makes her eligible for only a very small award. On the other hand, if she decides on the private institution, she may go ahead with her BEOG application because the high cost of the private college would make her eligible for a much larger BEOG award.

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*"Residual" meaning after controlling for student characteristics such as ability, family income, and early choices.

A similar circumstance could occur as a result of actions taken by the colleges themselves. For example, in 1975, private colleges may have been more likely than community colleges to require their students' to apply for a BEOG, simply because their needy students would be eligible for much larger awards. These discrepancies in institutional behavior were probably more common then than they are now.

Relationships between the type of institution entered and receipt of a BEOG produced were very similar, regardless of whether the analyses controlled both 11th and 12th grade choices or only 11th grade choices. Furthermore, the final partial correlations involving the dummy variable (BEOG versus no BEOG) were very similar to (but slightly smaller than) those obtained using the amount of the BEOG award. Since the amount of the BEOG is clearly affected by the cost of the college, "effects" involving this measure are necessarily ambigious. Therefore, only results involving the dummy variable will be reported.

Table 57 shows the final partial correlation coefficients between holding a BEOG and six characteristics of the college entered in the fall of 1975. By far the largest coefficients are associated with the college selectivity: Students receiving BEOG awards tend to enroll in less selective institutions, even after other relevent factors (early choices, ability, family income, sex, race, and so forth) are taken into account. It is worth noting that this same relationship was confirmed in the state level analyses: Students in states that receive relatively large amounts of BEOG dollars per students tend to switch their choices in the direction of less selective institutions

Table 57

Holding a Basic Grant (BEOG): Partial Correlations* with Various Choice Outcomes

	Dependent (Choice) Variable					
Student Subgroups	Private College	Distance from to College	Selec-tivity of Choice	Enrolled in First Choice from 11th Grade	Tuition and Fees College Entered	Two-Year College
All students	09	-04 **	-17 **	00	02	04 **
Men	11	-01	-07	-02	07	01
Women	07	-03	-21	-02	00	04
Whites	09	-03	-07	00	05	04
Blacks	02	-03	-11	-02	01	00
Low income	07	-01	-16	-03	03	-04
Middle income	14	04	-03	-02	11	00
High income	13	00	-02	-03	08	00
Low ability	06	01	-20	-04	02	-05
Middle ability	14	-01	-08	00	10	02
High ability	11	-04	-07	-02	-12	04
Very high ability	09	00	-03	-03	06	-01

*After control for early 11th grade choices, student personal characteristics local higher education environment, and state characteristics.

**Confirmed in state level analysis (see Chapter 6).

between the 11th and 12 grades. These effects, however, are not uniform across various student subgroups. Thus, this negative relationship is stronger among women than among men and stronger among low income and low ability students than among students from the middle and high ability and income groups. Since more students in the lower income groups are eligible for BEOG awards, this result is perhaps to be expected.

Two other findings from Table 57 were also confirmed in the state-level analyses: The negative relationship between having a BEOG and the distance from home to the college attended, and the positive relationship between having a BEOG and attending a two-year college. These two relationships are consistent, in that two-year colleges tend to be located relatively near the students' homes, also consistent with the negative relationship between holding a BEOG and college selectivity. Nevertheless, results were not consistent from one student group to another. For example, attending a two-year college is negatively related to holding a BEOG among low income and low ability students. Further, the coefficients for distance from home to college are nonsignificant for low income and low ability students.

Results for two other choice outcomes -- attending a private college and the cost of the college attended -- are actually contradicted by the findings from the state-level analyses. Thus, whereas holding a BEOG is positively associated with attending a private college and with the cost of the college attended, these two choice outcomes show negative relationships with the per student allocation of BEOG dollars within the state (Table 48, Chapter 6). These contradictory results highlight the need to exercise caution in attempting to discern causality from these relationships involving BEOG.*

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*It should also be stressed that anomalous or contradictory results may be attributed in part to the fact that our data did not permit us to differentiate dependent from independent students (a major criteria in determining eligibility for BEOG awards). One is more likely to find independent students, for example, in community colleges than in 4-year colleges.

For example, one can make a plausible case for the argument that causality in these data operates in reverse, such that students entering private and high cost colleges are more likely to hold BEOG awards because these colleges encourage them to apply for such awards more frequently than public and lower-cost colleges.

But what of the other findings? To what extent can it be assumed that having a BEOG encourages students to attend two-year colleges, nonselective colleges, and colleges relatively close to home? The principal problem in resolving this question is to determine the actual time of application of a BEOG: Did the student apply for and obtain certification of BEOG eligibility before or after making final decisions about which college to attend? Did the final choice of an institution come before or after the decision to apply for a BEOG? Without data to resolve these issues, the question of whether or not BEOG actually affects choice remains moot.

Chapter 8

Effects of Institutional Aid Programs

Chapter 8

Effects of Aid Offers

This final chapter examines the impact of actual financial aid offers on choice behavior. It will be recalled (Chapter 1) that two analytic approaches to this problem were used. In the first approach, a sample of 566 students was selected such that their institution of entry and their most preferred alternate were exactly matched. Thus, for each student who entered institution A and identified institution B as the most preferred alternate, there was a student who entered B and identified A as the most preferred alternate. All students were accepted and offered financial aid by both the institution they entered and the most preferred alternate.

Analyses of the comparative aid packages offered by the institution entered and the most preferred alternate showed that the amount of grant money in the package as well as the size of the total package favored the institution actually entered. Work-study offers showed no differences and loans showed a slight (but statistically nonsignificant) difference favoring the most preferred alternate. Since the size of the total offer showed no relationship to choice once the effects of differential grant offers were controlled, it was concluded that the only component in the financial aid package which was significantly related to choice was the relative size of the grant offers. Figure 1 shows the distribution of the differences in grant offers of the institution entered and the most preferred alternate. Regardless of the size of the difference, it consistently favors the institution entered over the most preferred alternate. Furthermore, as the size of the difference increases, the comparative effect of the difference increases. For example, when the difference exceeds $1,500, the student will enter the institution making the largest offer better than two times out of three. These findings provide strong

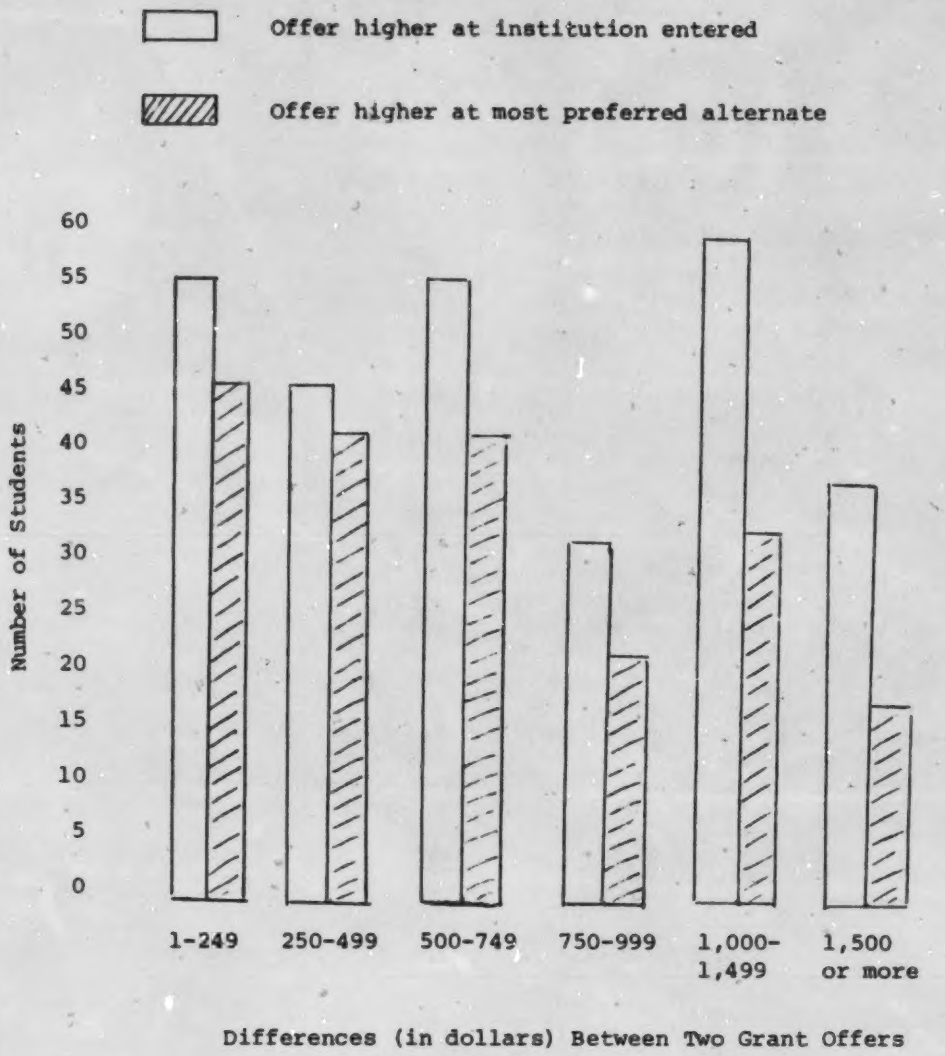


Fig 1. Effects of Competing Grant Offers on Student Choice
(N = 566 students with matches in first and second choice)

evidence that student choice behavior can be influenced by the amount of grant aid offered by the institution.

The second set of analyses concerning the impact of competing offers utilized the four files that were developed from the student's first and second college choices as expressed in the 12th grade. These longitudinal analyses first controlled differences between the first and second choice institutions before examining the impact of comparative financial aid offers. For example, the variable "first choice: two-year college" was scored as follows: "1" if the first choice was a two-year college and the second choice was not; "0" if both choices were two-year colleges or neither choice was a two-year college; and "-1" if the second choice was a two-year college and the first choice was not. For example, in predicting whether or not the student enters the first choice institution, a positive weight associated with this variable would mean that students were more likely to enter their first choice institution if it happened to be a two-year college and the second choice was not a two-year college. Conversely, a negative weight for this variable would mean that the student would be more likely to enter the first choice institution if the second choice was a two-year college and the first choice was not. In other words, a positive weight for this variable means that students are attracted to two-year over four-year institutions, and a negative weight would mean that they avoid two-year in favor of four-year institutions.

Table 58 summarizes the results of the stepwise regression analysis using the sample (N=905) in which both the first and second most preferred institutions in the 12th grade were privately controlled. The most important variable entering the regression (at the first step) is institutional selectivity. Apparently, the students who prefer private institutions are most likely to enroll at single-sex colleges, independent of selectivity. The final

Table 58   Sample: 12th grade **First Choice** Private; 12th grade **Second Choice** Private

Dependent Variable Entered First Choice Institution

Percent entering first choice 66

Stepwise Regression Results
(N=905)

Step	Variable Entered	Mult. R	Simple r	Partial R or Beta Weight before step 2	3	4	5	6	7	8	9
1	First Choice Higher Selectivity	.14	.14	.14	.14	.14	.14	.13	.14		
2	First Choice Womens College	.17	.08	.09	.09	.09	.09	.08	.07		
3	First Choice Two Year College	.18	.07	.08	.08	.08	.08	.07	.06		
4	First Choice Mens' College	.20	.08	.07	.07	.08	.07	.07	.07		
5	Log of Difference Between Grant Offers	.30	.24	.24	.24	.24	.23	.23	.16		
6	Log of Net Tuition Difference	.32	-.21	-.22	-.21	-.21	-.21	-.	-.11		
7											
8											

Note: Coefficients before entry are partial correlations; coefficients after entry are standardized regression coefficients (i.e., Beta weights).

institutional characteristic entering the regression is two-year college: Somewhat surprisingly, students preferring private institutions are more likely to opt for the two-year college when their choices involve a mixture of two and four-year institutions.

Once these four institutional characteristics were controlled, two financial aid measures entered the regression: The log of the difference between competing grant offers (positive weight), and the log of the difference between the two institutions in net tuition* (negative weight). These results confirm those obtained in the previous analysis; namely, that the most important factor influencing student decision making is the relative amount of grant aid in the total financial aid package.

To get a clearer idea of how choice is related to various measures of financial aid offers, the partial correlation coefficients for all other aid variables are presented before and after the two financial aid variables entered the regression equation (Table 59). Note that most of the coefficients that were significant before any financial aid variables entered the equation were reduced to nonsignificance after the log of the difference between net tuition entered. After the second financial aid measure entered the equation, no other measure was significantly related to the dependent variable.

Since the correlations of choice with both of these aid measures -- log of the difference between grant offers and log of the net tuition difference -- did not change appreciably after the four college variables entered the regression equation (Table 58), it can be assumed that these measures of

---

*"Net tuition" was defined as the difference between the tuition and fees charged by the institution and the total amount of financial aid offered. "Net tuition difference" is simply the net tuition of the first choice institution minus the net tuition of the second choice institution.

Table 59

Sample: 12th grade **First Choice** Private
12th grade **Second Choice** Private

Partial Correlation **Coefficients for Financial Aid Variables**
(N=905)

Variable Name	**Partial r at step before first financial aid variable enters Step** 4	**Partial r at/after entry of** financial aid variables at **steps** 5	6	
Log of difference between total aid offers[1]	.19	.05	-.03	
Log of difference between loan offers	-.04	.004	-.04	
Log of difference between grant offers	.23	entry	-	
Log of difference between work study offers	-.001	.03	-.005	
Difference between total aid offers	.20	.07	.009	
Difference between loan offers	-.02	.02	-.02	
Difference between grant offers	.23	.07	.04	
Difference between work study offers	-.02	.01	-.03	
Net tuition first **choice institution**	-.14	-.07	-.04	
Net tuition second **choice institution**	.07	.003	-.03	
Difference between net tuitions	-.21	-.09	-.03	
Log of difference between net tuitions	-.21	-.10	entry	
Ratio of first choice total aid to second choice	.14	.05	.02	
Ratio of first choice grants to second choice	.04	.06	.03	
Ratio of first choice loans to second choice	.03	-.03	-.04	

---

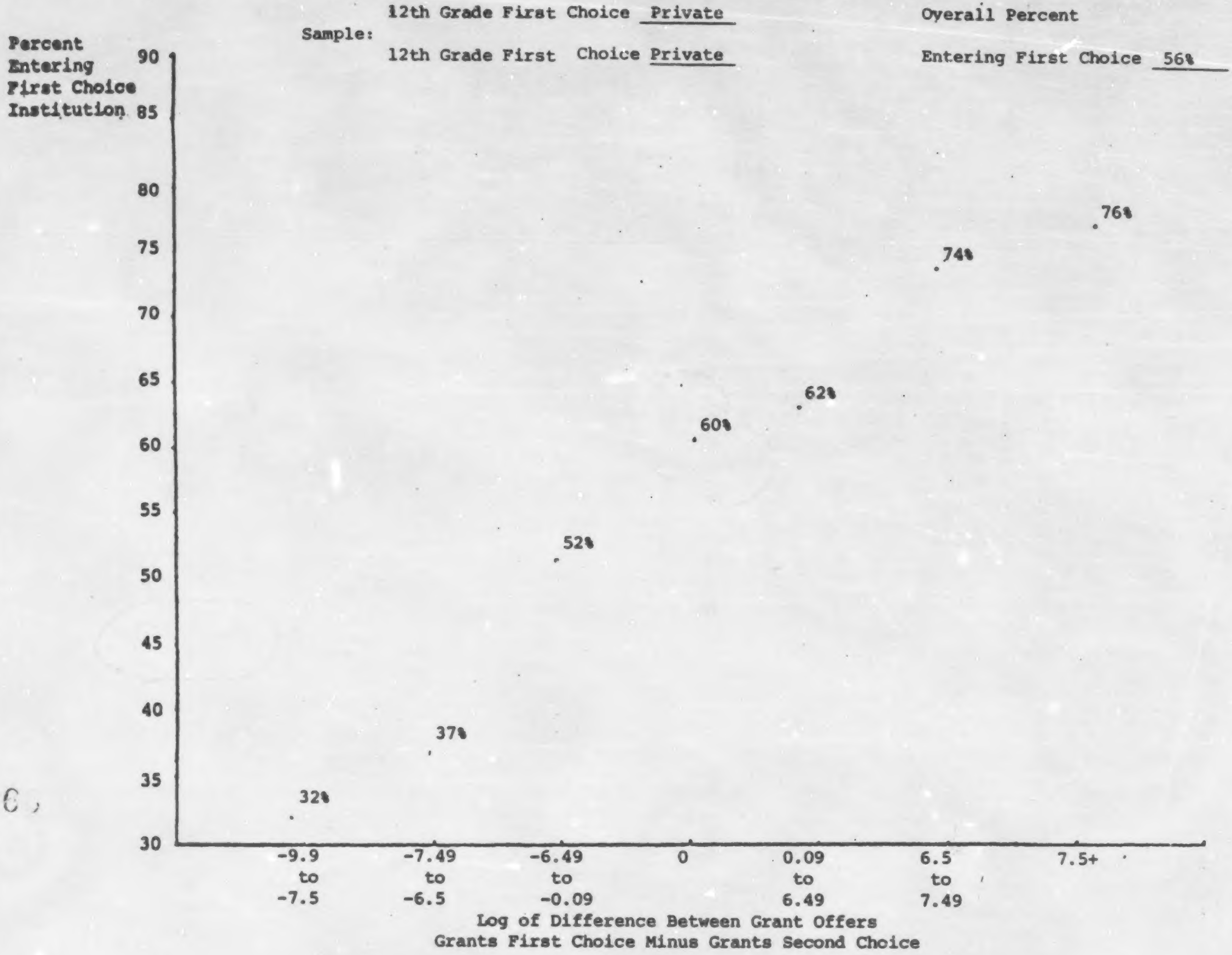
[1] **All difference measures subtract the second choice value from the first choice value**

Note: Coefficients of ±.07 or larger are statistically significant ($p < .05$).

financial aid offers are relatively independent of other institutional characteristics that might affect choice. Therefore, one can examine the simple (zero-order) relationship between either of these aid measures and the dependent variable without fear that there are confounding institutional characteristics that have not been controlled. Figure 2 shows the probability that the student will enter the first choice institution as a function of the first financial aid measure, log of difference in grant offers. Here we have a clear-cut monotonic relationship with the percentage entering their first choice institution increasing regularly as the difference between grant offers increases. Students with the largest difference favoring the first choice institution are more than twice as likely (76%) to enter their first choice institution as are students whose offers most favor the second choice institution (32%). Once more, these results provide strong support for the notion that student decision making can be affected by the relative size of competing grant offers.

A similar function displaying the relationship between log of the net tuition difference and probability of entering the first choice institution is shown in Figure 3. This time we have a negative relationship, which means that students are more likely to enter their first choice institution if the difference in net tuition favors the second choice institution. The smaller the net tuition of the first choice relative to the second choice, the greater the likelihood the student will enroll in the first choice. The function does not, however, appear to be monotonic: The proportion entering the first choice institution drops regularly as the net tuition difference increases, but then levels off in the last two intervals. Although it is not clear why this break in the function occurs, it could be that, once the cost of the first choice institution relative to the second choice institution

Fig 2. Effect of Differential Grant Offers on Choice

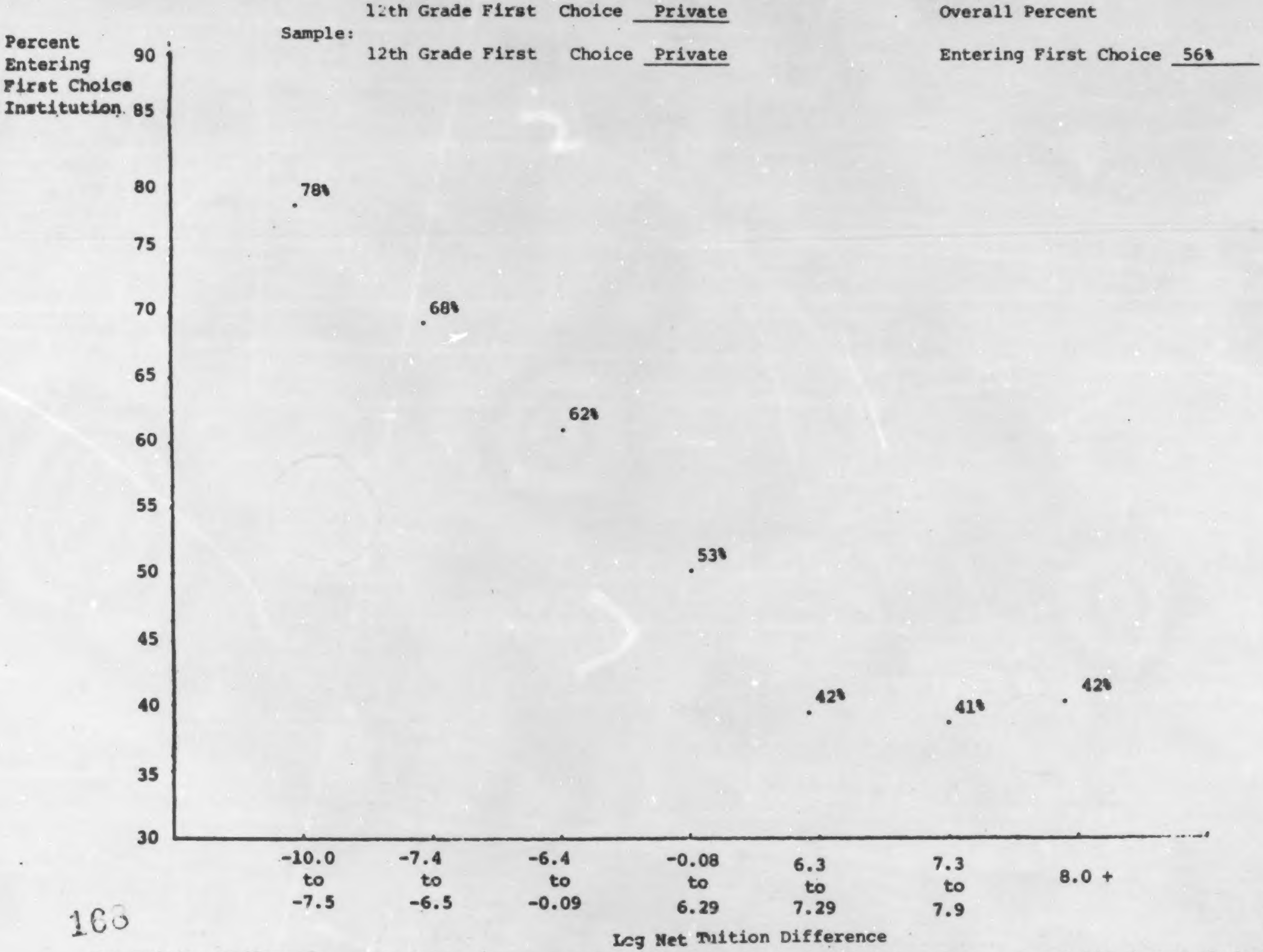


Sample: 12th Grade First Choice Private

12th Grade First Choice Private

Overall Percent Entering First Choice 56%

Fig 3. Effect of Net Tuition on Choice



Net Tuition Difference = ((Tuition & Fees - Total Aid First Choice)- (Tuition &Fees - Total Aid Second Choice)) exceeds a certain limit, increasing differentials have no effect on decision making. Larger student samples would be needed to resolve this issue.

Table 60 shows the results of the regression analysis using students whose first choice in the 12th grade was a private institution and whose second choice was a public institution. The first variable entering the equation is the difference between the enrollment size of the first and second choice institutions. The negative weight for this variable indicates that, the larger the size difference between the private and the public institution, the more likely the student will be to opt for the private institution. The negative weight for being Black means that Blacks are more likely to opt for the public institution than are nonblacks.

The third variable entering the equation, "realism" of the student's first choice, is the product of the student's SAT score and the difference between the selectivity of the first and second choice institution.* Note that extremely high scores occur when the student is of high ability and the first choice institution is more selective than the second choice institution; such a combination would be considered a "realistic" choice because high selectivity is paired with high ability. Note that the lowest (negative) scores would occur when students of high ability have a second choice institution that is much more selective than their first choice. The fact that the weight for this variable is positive means that, when the private and public institutions differ in selectivity, the brighter students tend to migrate toward the more selective institution. The final student characteristic entering

---

*Note that this variable had a slightly higher zero-order correlation with the dependent variable; it did not enter at the first step, however, because it is an interaction term that was allowed to enter only after individual variables (including those making up the term) had a chance to enter.

Table 60

Sample: 12th Grade First Choice Private

12th Grade First Choice Public

Percent entering first choice 66

Dependent Variable Entered First Choice Institution

(N=382)

Step	Variable Entered	Mult. R	Simple r	Partial R or Beta Weight before step 2	3	4	5	6	7	8	9
1	Difference in Enrollment First-Second Choice	.15	-.15	-.15	-.16	-.21	-.20	-.16	-.17		
2	Black Student	.19	-.11	-.12	-.11	-.09	-.15	-.18	-.18		
3	Realism of Student's First Choice[1]	.27	.16	.21	.20	.20	.23	.22	.22		
4	Scholastic Aptitude Test Score (SAT V+M)	.29	-.005	.01	-.05	-.11	-.13	-.09	-.10		
5	Net Tuition First Choice[2]	.43	-.32	-.31	-.33	-.33	-.32	-.32	-.28		
6	Log of Difference in Loans First-Second Choice	.45	.20	.20	.20	.20	.21	.14	.14		
7											
8											

1. Scholastic Aptitude Test Score X Difference in Selectivity (First-Second Choice).
2. Net Price = Tuition and Fees minus Total Aid.

Note: Coefficients before entry are partial correlations; coefficients after entry are standardized regression coefficients (i.e., Beta weights).

the regression equation is the student's composite SAT score. Note that the simple correlation is nonsignificant, but that the partial correlation becomes significant after the student's race and "realism" scores enter the regression equation. Since this same score is involved in the "realism" interaction term, the negative coefficient is difficult to interpret.

Two measures of financial aid offers entered the regression with significant weights. By far the largest weight -- indeed, the largest weight of all variables in the equation -- is associated with the net tuition of the first choice institution. Apparently, students whose choice set involves both public and private institutions becomes sensitized to the net cost of the private (more expensive) institution. The final choice is thus made on the basis of the net cost of only the private institution, independent of the net cost of the public institution. The final variable to enter -- log of the difference in loan offers between first and second choice institutions -- probably reflects the fact that loans is frequently the largest source of the difference in aid packages between public and private institutions. The fact that the coefficients for this variable shrinks (from .21 to .14) after net tuition of the first choice institution enters the regression supports the notion that loans account for a significant portion of the difference in aid packages offered by private institutions.

Table 61 shows what happens to the partial correlation coefficients for the other financial aid variables when net tuition and log of the loan difference enter the regression equation at steps five and six. Note that the difference between the net tuitions of the two institutions is significantly related to choice, but that this relationship disappears once the net tuition of the first choice institution is controlled.

Table 61

Sample: 12th Grade First Choice Private
12th Grade Second Choice Public

Partial Correlation Coefficients for Financial Aid Variables

(N=382)

Variable Name	Partial r at step before first financial aid variable enters Step 4	Partial r at/after entry of financial aid variables at steps 5	6
Log of difference[1] between total aid offers	.21	.07	.04
Log of difference between loan offers	.21	.14	entry
Log of difference between grant offers	.13	.01	.03
Log of difference between work study offers	.12	.08	.05
Difference between total aid offers	.25	.05	-.0008
Difference between loan offers	.14	.04	-.16
Difference between grant offers	.17	.007	.04
Difference between work study offers	.08	.04	.03
Net tuition first choice institution	-.32	entry	--
Net tuition second choice institution	-.03	.08	.05
Difference between net tuitions	-.29	-.08	-.05
Log of difference between net tuitions	-.26	-.06	-.01
Ratio of first choice total aid to second choice	.08	.006	-.02
Ratio of first choice grants to second choice	.02	.02	.04
Ratio of first choice loans to second choice	.07	-.02	-.13

---

1. All difference measures subtract the second choice value from the first choice value
2. Net price = tuition & fees minus total aid.

Note: Coefficients of ±.11 or larger are statistically significant ($p < .05$).

Regression results for the third student group -- those whose first choice in 12th grade was public and second choice was private -- are shown in Table 62. The fact that virtually the same set of student characteristics enters the regression as was observed in the previous analysis (Table 60) provides convincing replication of both sets of results. Again, Black students are more likely than nonblacks to opt for the public institution, and students in general are more likely to opt for the smaller and more "realistic" choice. Two other variables entered this particular regression: Differential selectivity and predominantly Black institution. Net tuition of the private institution, once again, proves to be the most significant factor in the comparative aid offers of the two institutions. One additional institutional characteristic -- location in the home state -- enters the regression at the final step: Students are more likely to opt for the institution which happens to be located in their home state.

Table 63 shows what happens to the partial correlations between various financial aid measures and choice once the effect of the net tuition of the private institution (the second choice, in this case) has been controlled. It should be noted that three financial aid measures -- the logs of the differences in work-study, grants, and total aid -- retained borderline relationships with choice after net tuition of the second choice institution was controlled. With larger sample sizes, these financial aid measures might still show significant partial correlations with choice. Ideally, these analyses should be replicated with larger samples.

Results for the final regression analysis using students whose first and second choices were both public institutions are shown in Table 64. Students prefer the predominantly Black over the predominantly White college, the

Table 62

Sample: 12th Grade First Choice Public
12th Grade Second Choice Private

Percent entering first choice 54

Deperdent Variable Entered First Choice Institution
(N=337)

Step	Variable Entered	Mult. R	Simple r	Partial R or Beta Weight before step 2	3	4	5	6	7	8	9
1	Black student	.13	.13	.13	.12	.12	.12	.14	.16	.15	
2	First Choice Higher Selectivity	.21	.17	.16	.16	.009	-.03	-.06	-.06	-.06	
3	Realism of Student's First Choice	.24	.21	.21	.13	.20	.26	.31	.29	.30	
4	Difference in Enrollment First-Second Choice	.27	-.09	-.10	-.11	-.15	-.15	-.15	-.14	-.15	
5	First Choice Black Institution Second Choice Not Black Institution	.30	.04	.06	.07	.11	.12	.12	.12	.11	
6	Net Tuition Second Institution	.33	.16	.18	.16	.16	.15	.15	.14	.16	
7	First Choice in Home State Second Choice out of Home State	.35	.06	.06	.09	.09	.10	.10	.12	.12	
8											

Note: Coefficients before entry are partial correlations; coefficients after entry are standardized regression coefficients (i.e., Beta weights).

Table 63

Sample:
12th Grade First Choice Public
12th Grade Second Choice Private

Partial Correlation Coefficients for Financial Aid Variables
(N=337)

Variable Name	Partial r at step before first financial aid variable enters Step 5	Partial r at/after entry of financial aid variables at steps 6
Log of difference between total aid offers[1]	.14	.08
Log of difference between loan offers	.003	-.02
Log of difference between grant offers	.13	.08
Log of difference between work study offers	.11	.10
Difference between total aid offers	.10	.01
Difference between loan offers	-.01	-.05
Difference between grant offers	.08	.01
Difference between work study offers	.09	.07
Net tuition first choice institution	-.006	-.04
Net tuition second choice institution	.15	entry
Difference between net tuitions	-.13	-.04
Log of difference between net tuitions	-.13	-.04
Ratio of first choice total aid to second choice	.08	.03
Ratio of first choice grants to second choice	.05	.03
Ratio of first choice loans to second choice	.05	.05

---

[1] All difference measures subtract the second choice value from the first choice value

Note: Coefficients of ±.11 or larger are statistically significant ($p < .05$).

Table 64

Sample: 12th Grade First Choice Public

12th Grade Second Choice Public

Dependent Variable Entered First Choice Institution

Percent entering first choice 62

Stepwise Regression Results
(N=535)

Step	Variable Entered	Mult. R	Simple r	Partial R or Beta Weight before step 2	3	4	5	6	7	8	9
1	First Choice Black Inst. Second not	.26	.26	.26	.26	.23	.29	.28	.28		
2	First Choice Higher Selectivity	.35	.24	.25	.24	.25	.16	.17	.18		
3	Difference in enrollment First-Second Choice	.38	-.18	-.14	-.15	-.15	-.19	-.19	-.19		
4	Difference in Selectivity First-Second Choice	.39	.04	.18	.02	.10	.15	.12	.11		
5	Log of Difference in Grants First-Second	.43	.19	.20	.20	.21	.20	.18	.16		
6	Ratio of Grants First Divided by Second	.44	.12	.11	.14	.15	.15	.10	.10		
7											
8											

Note: Coefficients before entry are partial correlations; coefficients after entry are standardized regression coefficients (i.e., Beta weights).

more selective institution, and the smaller institution. More important, the relative size of the institutional grant offers once more turns out to be the most potent aspect of the competing financial aid offers. As a matter of fact, even after the log of the difference between the grant offers is controlled, the ratio of the two grant offers (first choice to second choice) still carries a significant positive weight in this analysis.

Table 65 shows how the partial correlation of all other financial aid measures change as the two measures of comparative grant offers are controlled. Note that the log of the difference in total aid offers has a highly significant partial correlation (.17) which is reduced to nonsignificance (.06) when the log of the difference between grant offers is controlled. These findings again provide strong confirmation of the results of the first regression analysis (Table 58): When students are choosing between two public or two private institutions, the only financial aid variable that affects the final choice is the comparative size of the competing grant offers.

Since the correlation between choice and the log of the difference in grant offers changed only slightly as other independent variables entered the regression equation (Table 64), the simple relationship between this financial aid measure and the percent of students entering their first choice institution was plotted (Figure 4). Although relatively small differences in competing grant offers appear to make little difference as far as decision making is concerned, differences at the upper and lower extremes are of considerable importance. Thus, when the comparative grant offers maximally favor the first choice institution, the student's chances of entering that institution are more than twice as good (90%) as they are when the difference maximally favors the second choice institution (39%).

Table 65

Sample: 12th Grade **First Choice** **Public**

12th Grade **Second Choice** **Public**

Partial Correlation **Coefficients for Financial Aid Variables**

(N=535)

Variable Name	**Partial r at step before first financial aid variable enters Step** 4	**Partial r at/after entry** of financial aid variables at **steps** 5	6
Log of difference between total aid offers[1]	.17	.06	.09
Log of difference between loan offers	.06	.09	.08
Log of difference between grant offers	.20	entry	-
Log of difference between work study offers	-.02	.009	.02
Difference between total aid offers	.13	.03	.04
Difference between loan offers	.01	.05	.08
Difference between grant offers	.16	.02	.01
Difference between work study offers	-.08	-.05	-.04
Net tuition first **choice institution**	-.04	.04	.03
Net tuition second **choice institution**	.10	.06	.07
Difference between net tuitions	-.11	-.02	-.03
Log of difference between net tuitions	-.13	-.02	-.03
Ratio of first choice total aid to second choice	-.04	-.07	-.07
Ratio of first choice grants to second choice	.15	.10	entry
Ratio of first choice loans to second choice	.04	.06	.06

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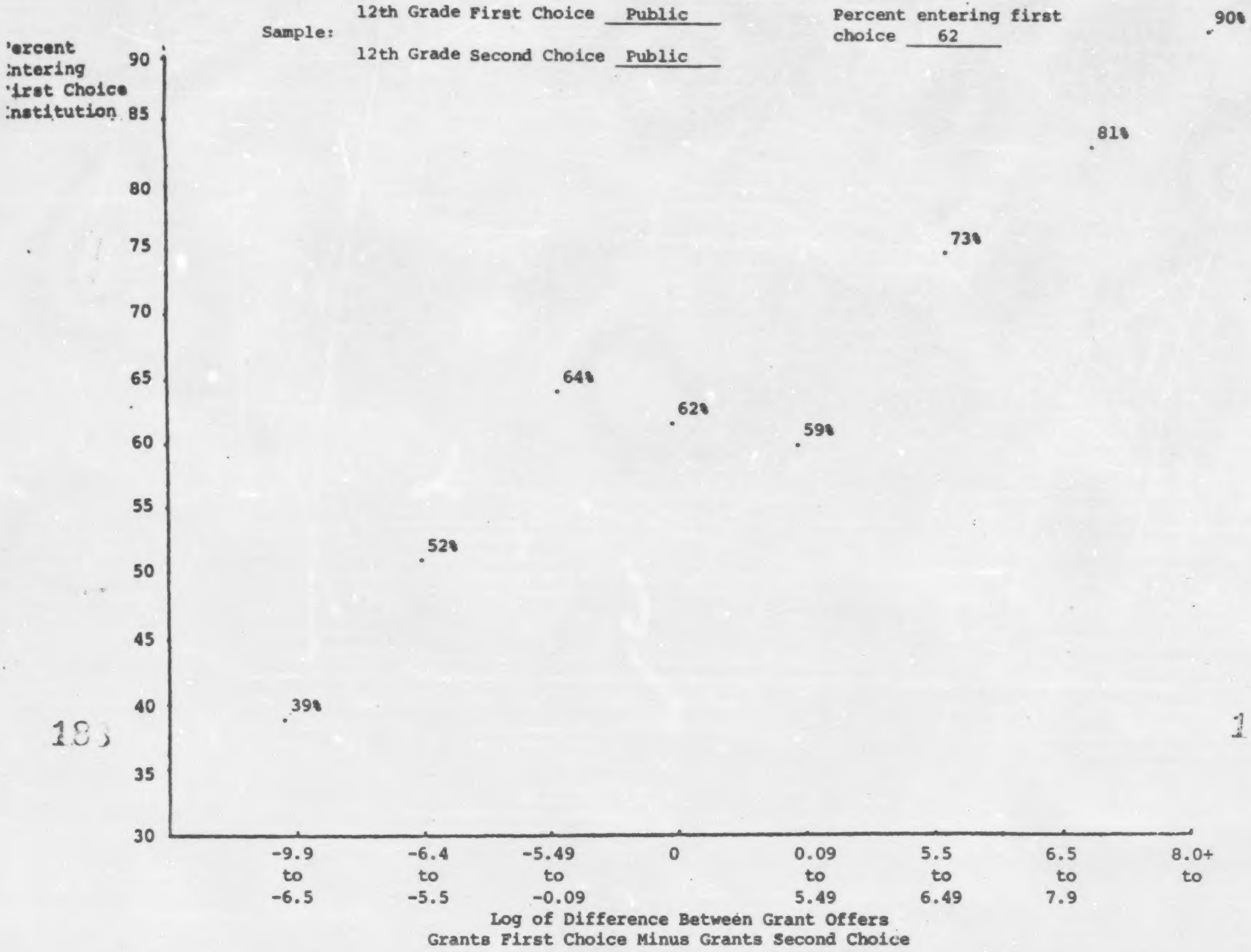
1. All difference measures subtract the second choice value from the first choice value

Note: Coefficients of ±.09 or larger are statistically significant ($p < .05$).

Fig 4. Effect of Differential Grant Offers on Choice



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Appendices

SISFAP-Study A

The Impact of Student Financial Aid Programs on Student Choice

by
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With the Assistance of
James W. Henson and C.E. Christian

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SISFAP Study A

Appendices

Appendices

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Appendix A

Procedures for Matching and Merging Data Files

Introduction

The analysis planned for Study A depended upon development of complex longitudinal student data files that would measure student and college characteristics at three points in time: the beginning of the eleventh grade, midway through the twelfth grade, and at college entry. Four major surveys were used to obtain student characteristics:

survey	Time administered
Preliminary Scholastic Aptitude Test (PSAT)	October, 1973
Scholastic Aptitude Test (SAT)	Fall-Winter, 1975-75
American College Testing Program (ACT)	Fall-Winter, 1974-75
Cooperative Institutional Research Program (CIRP)	Fall, 1975

The PSAT survey (totaling over one million students) was used for eleventh grade data, both SAT and ACT surveys (together totaling over 2 million students) for twelfth grade data, and the CIRP survey (totaling over 300,000 students) for college entry data. These survey data presented an imposing programming problem--matching and merging individual subject data across different survey instruments. Data describing college choices at each of the three time points were primarily derived from Higher Education General Information Surveys (HEGIS); these data then had to be merged on each student's record. There were a total of twelve possible college choices that had to be described with HEGIS data; two on the eleventh grade file, six on the twelfth grade file, and four on the entering freshmen file. In addition, our research indicated that measures of the local higher education environment (local to the student's home address) and financial aid characteristics of each student's home state would have to be developed and merged on each student's record. The final major programming problem concerned development of a weighting scheme that could be used to make the sample data reflect national totals.

Each of these tasks: (1) matching and merging individual subjects, (2) developing and merging descriptions of college choices, local higher education environments, and state financial aid characteristics, and (3) development of weights is covered in detail below.

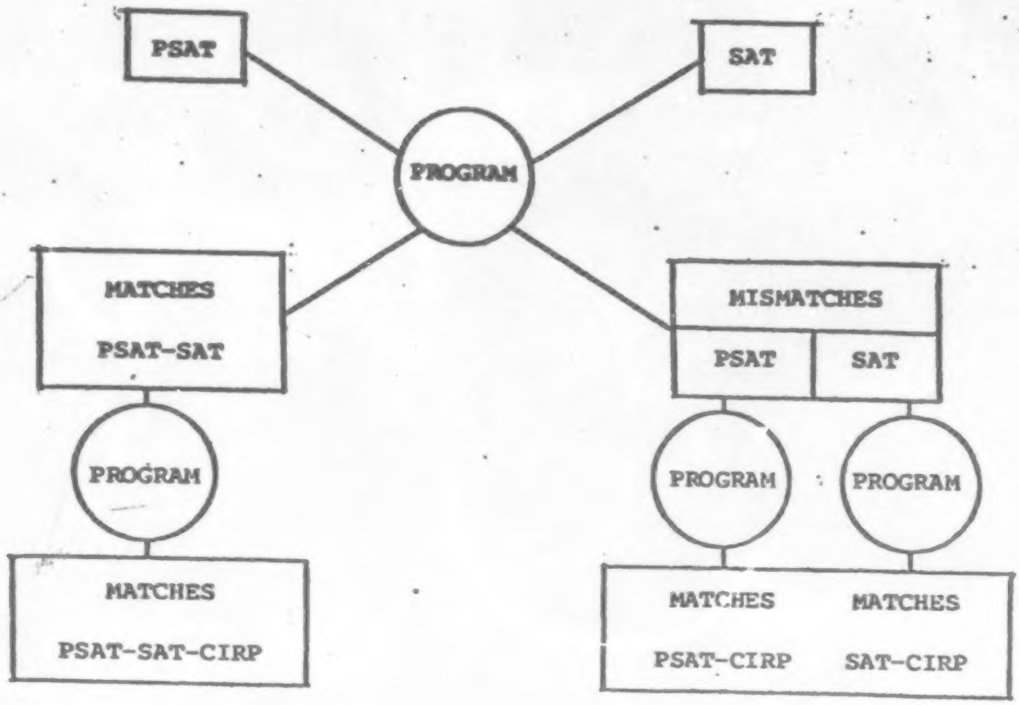
Matching and Merging Individual Subject Data

Student data had to be matched over four different surveys. Eleventh and twelth grade data were taken from the major national testing programs: eleventh grade data from the 1973 PSAT survey, twelfth grade data from both the 1974-1975 SAT and ACT exam surveys. Entering freshmen data was taken from the 1975 administration of the CIRP program's national freshmen questionnare. Since the combined total of observations over these four surveys totaled 3 and 1/2 million cases, elaborate and complicated algorithms were necessary to reliably and efficiently match students from the different data sets. The final form of the matching algorithm was quite complex (see table 1 at the end of this section for a flow chart outline of the steps producing ACT-CIRP matches).

The match program executed a three-step matching procedure for separate criterion sorts in order as follows:

1. social security number.
2. first four characters of last name, first and middle initials, birthdate, home address, and sex.
3. mismatches were resorted, dropping middle initial and dropping first name if necessary.

The operation of the software is outlined by the following simple flow chart which indicates the use of the three-step sorting procedure at steps denoted "PROGRAM".

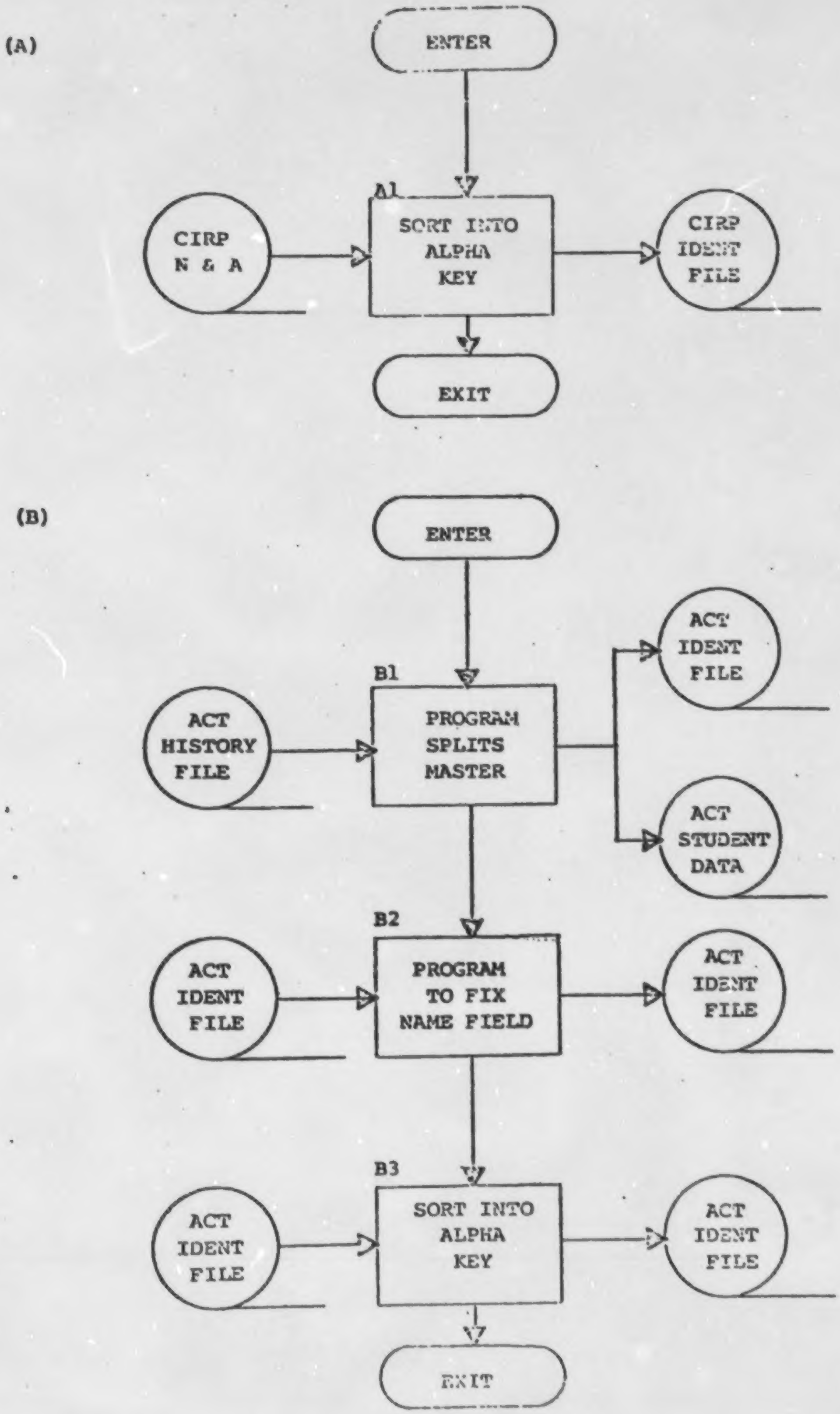

PSAT
SAT
PROGRAM
MATCHES
PSAT-SAT
MISMATCHES
PSAT
SAT
PROGRAM
PROGRAM
PROGRAM
MATCHES
PSAT-SAT-CIRP
MATCHES
PSAT-CIRP
MATCHES
SAT-CIRP

The first step sorted cases by SSN and then matched students by SSN across the sample files. Successful matches were obtained for 1/2 million PSAT-SAT cases, 1/4 million PSAT-ACT cases, 27,000 PSAT-CIRP cases, 30,000 SAT-CIRP cases and 25,000 ACT-CIRP cases. The next step processed SSN non-matches (primarily those that did not contain SSN's) by sorting cases on a full match "key" (this key contained; full name, birthdate, sex, home address, and SSN). Because the match procedure used the full name field in one of its sorting steps the name fields of all files had to be put in compatible format. For example, one year of ACT data had the individual student names segemented into three fixed fields, but for another year the ACT file had stored the entire name in one field without segregating last, first and middle names. The ACT file for the year in which the name fields were not segmented by last, first and middle initial had to be reformatted. Matches and non-matches on the four letter last name field were separated with matches transferred to a master roster file. Recall that the matched cases transferred contained the full key field (full name, birthdate, sex,SSN and home address). This full key field was machine examined to verify the match. If the match was not complete on all key fields, then the record on the master roster file was transferred to microfiche where the full key field was manually examined. This important aspect of the match procedure, printing of a microfiche suspect roster of matches that were incomplete or imperfect, should be emphasized. The suspect roster contained the entire match key. These rosters were manually edited to reconcile key punch errors, miscoding, or misspelling that prevented complete matching. The actual mismatches that became evident upon examination of the complete key field were then purged from the file. Many match problems were discovered by examining the full microfiche roster file. In the PSAT and SAT record's name fields, O was mispelled as Q. These names were then machine edited and reinserted in the matching process.

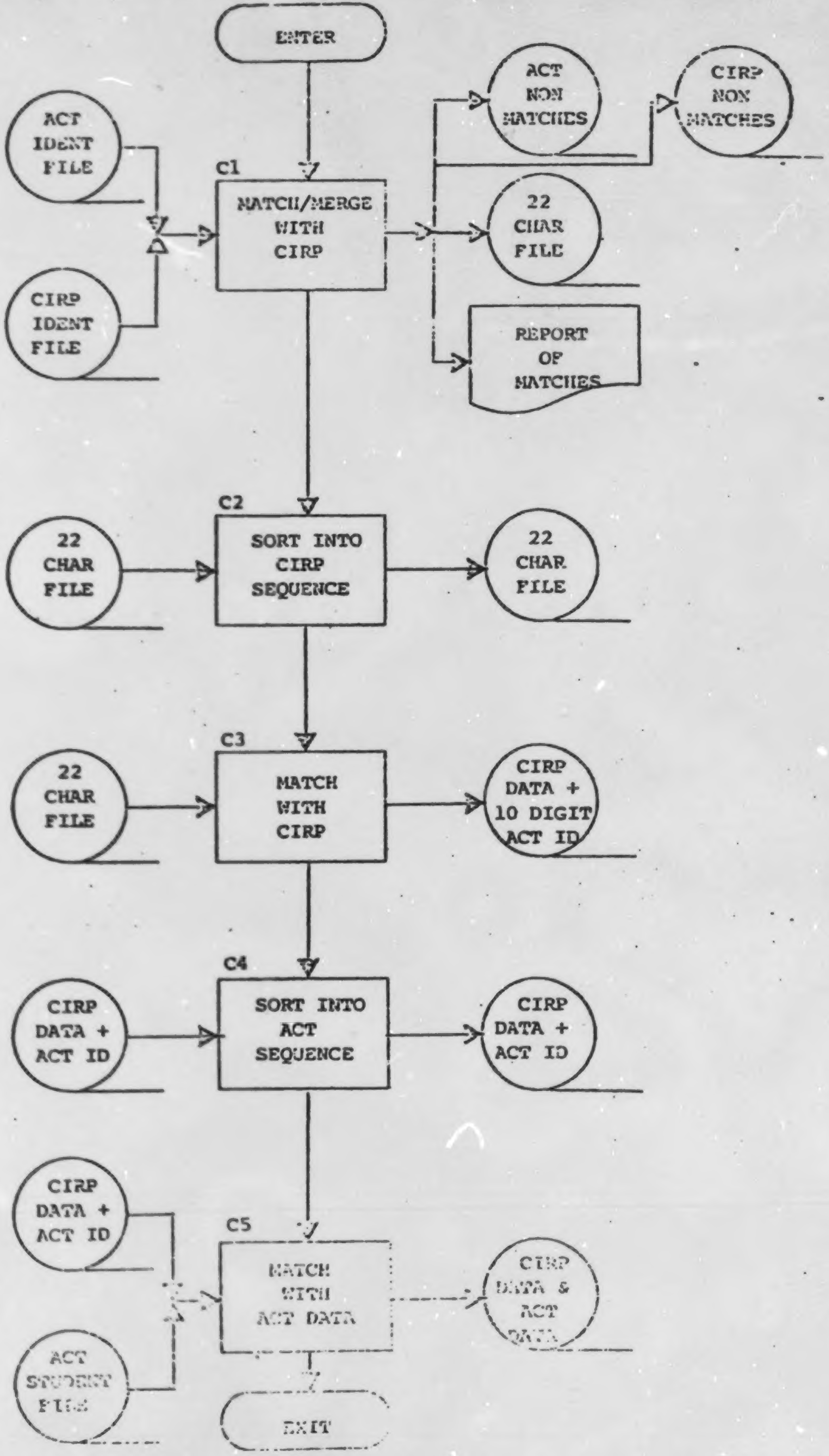
Matching on a third criterion was developed for the remaining non-matches. After trying many match criteria, the most productive procedure was found to be the resolution of nicknames used in one file versus full names used in another. Shortened versions of names (such as Don for Donald) were already resolved by the original matching process, but nicknames with different spelling were rejected. Therefore, we wrote software for a nickname file (eg. Tony/Anthony, Bill/William) that was used in the third and final matching procedures. These final matching procedures for the remaining nonmatched cases also dropped first name if necessary. All matches were ultimately passed through the full editing procedure; machine and manual examination of all elements of the key field (full name, birthdate, home address, SSN, and sex).

The matched records that had passed all programming and manual editing procedures were combined into three analytical data files: an eleventh-twelth grade file of 724,460 cases, a twelfth grade-entering freshmen file of 175,152 cases, and an eleventh grade-twelfth grade-entering freshmen file of 111,579 cases.

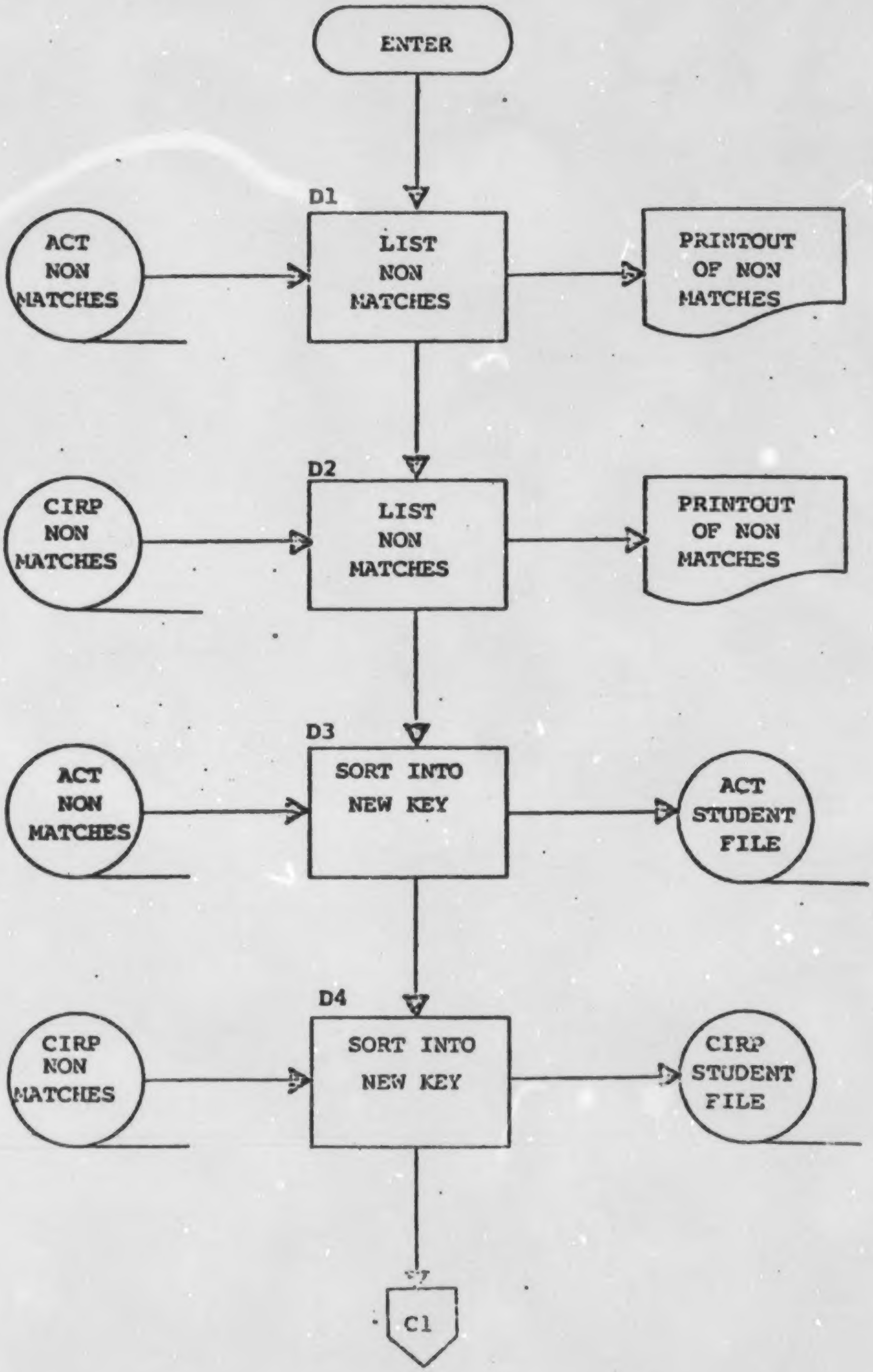
Table 1


(A)
ENTER
A1
CIRP N & A
SORT INTO ALPHA KEY
CIRP IDENT FILE
EXIT
(B)
ENTER
B1
ACT HISTORY FILE
PROGRAM SPLITS MASTER
ACT IDENT FILE
ACT STUDENT DATA
B2
ACT IDENT FILE
PROGRAM TO FIX NAME FIELD
ACT IDENT FILE
B3
ACT IDENT FILE
SORT INTO ALPHA KEY
ACT IDENT FILE
EXIT

(C)


ENTER
ACT IDENT FILE
CIRP IDENT FILE
C1
MATCH/MERGE WITH CIRP
ACT NON MATCHES
CIRP NON MATCHES
22 CHAR FILE
REPORT OF MATCHES
C2
22 CHAR FILE
SORT INTO CIRP SEQUENCE
22 CHAR FILE
C3
22 CHAR FILE
MATCH WITH CIRP
CIRP DATA + 10 DIGIT ACT ID
C4
CIRP DATA + ACT ID
SORT INTO ACT SEQUENCE
CIRP DATA + ACT ID
C5
CIRP DATA + ACT ID
ACT STUDENT FILE
MATCH WITH ACT DATA
CIRP DATA & ACT DATA
EXIT

(D)


ENTER
D1
ACT NON MATCHES
LIST NON MATCHES
PRINTOUT OF NON MATCHES
D2
CIRP NON MATCHES
LIST NON MATCHES
PRINTOUT OF NON MATCHES
D3
ACT NON MATCHES
SORT INTO NEW KEY
ACT STUDENT FILE
D4
CIRP NON MATCHES
SORT INTO NEW KEY
CIRP STUDENT FILE
C1

College, Local Higher Education Environment, and State Financial Aid Data*

College Data

Each student listed up to twelve possible institutional choices in the three analytical data files: two from the eleventh grade survey, six from the twelth grade surveys, and four from the entering freshmen survey. We needed to develop measures describing each of the college choices, then merge this information on the student's record. The main source of college descriptors was Higher Education General Information Survey (HEGIS) data collected annually by the Office of Education. These data cover many attributes of colleges (finances, enrollments, degrees earned, employee data, etc.), and are gathered on separate survey instruments. Therefore, the data had to be edited and merged into one composite file. This composite file had to be made as small as possible in order to minimize the total length of the three analytical files. The final list of data taken from HEGIS surveys is described in appendices C,D and E.

Before these data could be merged on each student's record, a common institution identifying code had to be developed to match student college choices to HEGIS institutional data. The HEGIS file of college descriptors contained both the Federal Interagency Commission on Education code (FICE) and the American Council on Education code (ACE). Except for the freshmen data which used the ACE institutional ID, the other surveys used their own institutional ID. PSAT and SAT surveys used Educational Testing Service's institutional ID, while the ACT survey also used their own ID. However, we were able to obtain a file which contained all four institutional ID's (FICE,ACE,ACT,ETC). With this file we were able to match institutional choices in all surveys to the set of HEGIS institutional descriptors.

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* Full decriptions of all data are contained in appendices C,D and E.

Sorting the student record for each college choice and then merging college descriptions on the student's record would have been too costly and inefficient (requiring 24 passes of the data). Instead, we indexed the ID associated with the expressed college choice in core to the appropriate set of college descriptions in the HEGIS data file. This method required only one pass of the data to derive college descriptions for up to twelve college choices for each student.

Local Higher Educational Environment

We felt that student decisions on what kind of college to attend and where would be influenced by the student's proximity to various types of public and private institutions. This meant that we had to develop measures of the educational environment local to the student's home and merge these measures on the student's record. We decided to develop measures of the type and number of colleges near a student's home by using the student's home zipcode taken from the address record in each survey and the college zipcodes from the HEGIS information file. Using programs developed by the Department of Defense we converted zipcodes to latitude and longitude coordinates. These coordinates were then processed by software we developed that calculated the distance between any two sets of coordinates located on a sphere of given diameter (the earth's diameter in this case).

For each student's home zipcode, thirteen different measures of the local higher education environment were constructed (again, see Appendices C,D and E for a full description of these measures). As there are over 30,000 zipcodes used nationwide, with over 2600 unique zipcodes for colleges, the computing time required to develop thirteen measures was staggering. We had to cut down the search algorithm such that the number of zipcodes processed was sufficient to measure the local environment but not too costly. We did this by setting geographic limits to the number of zipcodes searched for each college environment measure. For example, the availability of various types of public institutions would be expected to affect decision making only within state boundaries, since students generally do not cross state boundaries to attend public institutions or, if they do, the proximity of the institution is not expected to be as important a factor as in the case of public institutions located within the states. Consequently, the measures involving public institutions were confined to the state within which the student resided. Only the District of Columbia presented problems with measures of public institutions, given that some of the District of Columbia zipcodes are actually located in suburban Maryland. Thus, proximity measures for public institutions in Washington D.C. include a few public institutions in nearby Maryland. Otherwise, all measures of public institutions were calculated only for those institutions located within the student's home state. Measures of private institutions, on the other hand, included all private institutions located within the student's home state and all contiguous states. Two states with only the corners touching were considered contiguous as well as all states with common boundaries. Hawaii and Alaska, of course, have no contiguous states.

Final decisions about how to construct the various proximity measures were made by first taking two states--Massachusetts and California--with contrasting types of higher educational systems and plotting various proximity measures against student decisions; such as, choosing a public versus private college, a two-year versus a four-year college and so forth. The final thirteen measures were chosen primarily on the basis of how well they differentiated students according to these various choice processes. The thirteen environmental measures were merged on each student's record by matching (in core) the student's home zipcode to the file containing all zipcodes and, for each zipcode, a string of thirteen environmental measures.

State Financial Aid Data

One of our analysis plans assessed the effect of state differences in financial aid characteristics on college choice patterns within each state. This analysis plan required generation of state level measures, and merging those measures on each of the three analytical files. These measures were developed from governmental and national financial aid organizations (see page 70 of Appendix C for a full list of sources), and consist, primarily, of per student expenditure levels for various types of financial aid. A file of twenty measures was developed that also contained a state identification code. This same state code was on each student record in the three analytical files. The state descriptors were merged on each student's record by using the common state identification code (see Appendices C,D, and E for a details on the twenty measures).

Development of Weights

Since we used the eleventh-twelfth grade longitudinal file for assessing the impact of state financial aid programs, it was important to make appropriate adjustments for any serious within-state biases in sampling. Also the two additional analytical files (twelth grade-freshmen,eleventh grade-twelfth grade-freshmen) required weights that would produce national first-time full-time freshmen counts.

State Level Weights

We utilized data from the 1970 Decennial Census to develop state level weights. For each state, census data were used to generate three-way matrices (sex by race by family income). We did this both for families having one or more students who finished high school and families with one or more students entering postsecondary education (for the year 1970). The income distribution for comparable students as reflected in the 1974 October CPS was used to adjust 1970 income distributions upward to reflect inflationary trends between 1970 and

1974. A similar three-way tabulation of parental income, sex and ethnicity was computed separately for each state using subjects taken from the three analytical files. By contrasting these latter distributions with the adjusted ones based on the 1970 Census, a set of corrective cell weights were developed for each state. These weights, when applied to the individual subject data from the merged files, will produce sex,ethnic and income distributions which will be identical to the adjusted distributions from the 1970 Census. A typical cell weight would be computed by sex as follows:

$$W_{ijk} = P_{ijk} \div p_{ijk}$$, where

W = cell weight

i = i^{th} state

j = j^{th} income level

k = k^{th} ethnic group

P = Proportion from adjusted 1970 census data

p = Proportion from merged 11-12th file, 12-freshmen, or 11-12-freshmen file

Full-time First-time Freshmen Weight

The weights used to produce totals reflecting first-time full-time freshmen counts were derived by the same process used by the CIRP program*. This weighting scheme employed a sample of institutions stratified by institutional type and other characteristics. The stratification scheme, sample sizes, and weights used for the national CIRP program are listed in table 2. Study A weights for the two

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National Norms for 1975. This publication explains the weighting scheme in full.

Table 2

1975 ACE/UCLA Sample and Weights Used in Computing National Norms

Stratification Cell For Sampling		Number of Institutions			Cell Weights[a] Applied to Data Collected From	
			Participants			
		Population	Total	Used in Norms	Men	Women
Public University						
	SATV + SATM:					
1.	Less than 1,000	59	13	8	5.2	5.3
2.	1,000-1,099	39	10	6	7.9	7.2
3.	1,100 or more	23	13	7	2.9	2.9
Private University						
	SATV + SATM:					
4.	Less than 1,050	26	17	9	3.2	2.9
5.	1,050-1,174	18	8	4	4.6	5.5
6.	1,175 or more	25	13	9	2.6	2.8
4-Year Public College						
	SATV + SATM:					
7,10.	Less than 935 and unknown	204	30	15	17.0	13.8
8.	935-1,024	94	16	10	10.3	10.0
9.	1,025 or more	43	16	9	4.0	14.8
4-Year Private Nonsectarian						
	SATV + SATM:					
11,15.	Less than 950 and unknown	169	24	15	10.5	7.8
12.	950-1,024	70	23	12	6.2	5.3
13.	1,025-1,174	84	34	22	4.8	3.1
14.	1,175 or more	48	33	28	1.7	1.9
4-Year Catholic						
	SATV + SATM:					
16,19.	Less than 950 and unknown	96	32	22	3.3	3.9
17.	950-1,024	72	26	19	7.1	3.1
18.	1,025 or more	36	16	11	3.9	2.8
4-Year Protestant						
	SATV + SATM:					
20.	Less than 875	64	11	8	8.2	8.1
21.	875-974	102	30	21	4.1	4.8
22.	975-1,049	71	26	19	3.5	3.6
23.	1,050 or more	49	25	20	2.2	2.4
24.	Unknown	57	3	3	19.4	14.3
2-Year Public						
	Enrollment:					
25,26.	Less than 250	208	13	8	28.6	23.5
27.	250-499	269	24	17	16.8	16.0
28.	500-999	217	11	6	34.9	35.4
29.	1,000 or more	190	16	10	18.6	16.9
2-Year Private						
	Enrollment:					
30.	Less than 100	64	11	10	5.0	7.5
31.	100-249	100	23	15	6.4	7.0
32.	250-499	44	5	4	7.5	13.5
33.	500 or more	13	4	3	6.6	9.2
Predominantly Black						
34.	Public 4-year	36	17	5	6.0	5.8
35.	Private 4-year	49	16	9	5.1	3.8
36,37.	Public and private 2-year	17	4	2	15.6	12.7

[a] Ratio between the number of 1974 first-time, full-time students enrolled in all colleges and the number of first-time, full-time students at colleges in the CIRP sample.

files containing CIRP data used the same stratification cells. The stratification cell weights are ratios between the total number of first-time full-time freshmen in the eligible population within a given cell and the number of freshmen entering the sample institutions in that cell, computed separately for each sex. The cell weights for Study A, like those in the national CIRP study, were further adjusted within each institution, by sex, according to the proportion of the institution's 1975 first-time, full-time freshmen who completed the CIRP survey. In addition, the weights used for the two Study A files containing CIRP data were corrected for biases in (a) high school grades and (b) the year the student graduated from high school.* Therefore, the actual weight was the product of this within-institution weight and the appropriate cell weight taken from each of the thirty-seven stratification cells. The final weight thus corrected for biases within each participating college to produce total counts for that college, then within each stratification cell to produce national totals for each institutional type. These weights were calculated and merged on the student's record when the data were passed for construction of subfiles.

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*The assumption here was that students would not have test scores for one of three reasons: (1) They graduated from high school before 1975; (2) They had poor academic records in high school; (3) Their college did not require admissions tests. The weighting scheme thus adjusts, by sex, for all three sources of bias (see Notes 64 and 65, Appendix D, page 86).

Appendix B

Measurement Error in Research on Social Policy

Social scientists have become increasingly involved in large scale studies of social problems and policy issues during recent years. The late arrival of academic disciplines such as psychology in the arena of policy research is attributable in part to the heavy emphasis on experimental methodology that characterized graduate training programs in these fields during the years immediately following World War II. Scholars trained in experimental techniques avoided empirical studies of social problems because such problems were usually not amenable to requirements of the experimental method such as random assignment of subjects and direct manipulation of independent variables. However, with the increasing demand during the past ten years for more sophisticated "real world" research on social problems, social scientists trained in experimental methodology have increasingly been drawn toward large-scale nonexperimental research. This trend is exemplified in the now classical treatise by Campbell & Stanley (1963) on nonexperimental research designs.

The major problem with nonexperimental designs such as correlational studies or "natural experiments" is the non-random assignment of people to different treatment conditions. Comparing dependent variables across alternative treatments produces ambiguous results, since observed differences might be attributable to the nonrandom assignment of subjects rather than to the effects of the different treatments per se. The best designed studies attempt to deal with non-random assignment by using longitudinal data on individual subjects in which a large number of biasing antecedent variables are included and controlled through multivariate statistical procedures. In essence, controlling sources of input bias in this fashion amounts to simulating random assignment by statistically controlling various antecedent variables. Most such attempts rely on multivariate procedures such as path analysis, multiple group discriminate analysis, and stepwise multiple regression analysis.

This study, which has been carried out as part of a large-scale national assessment of the impact of federal and state financial aid programs on students' choices of colleges, has two principal aims: (1) to discuss the biases created by measurement error in nonexperimental research; (2) to obtain empirical estimates of reliability of survey items for use in multivariate analyses of program impacts.

Inferential Biases Caused by Measurement Error

The importance of measurement error in correlational studies has been largely overlooked by most investigators, in spite of the fact that such errors, left uncontrolled, can seriously bias estimates of the effects of treatment variables. The importance of adjusting for measurement error ("unreliability") can hardly be overstressed. Basically, the problem stems from trying to control statistically for preexisting differences in people prior to their exposure to the treatment variable. In its simplest form, such controls would involve controlling the effects of a "pretest" (pretreatment) variable on the posttest (dependent) variable by means of covariance analysis or partial correlation and regression. The presence of measurement error in the pretest variable causes the investigator to underestimate the relationship between that variable and the dependent variable. This "undercorrection" subsequently biases estimates of the relationship between the dependent variable and the treatment (social policy) variable. Such bias is of particular concern because it tends to yield results which support the most plausible theory.

The seriousness of this problem can be illustrated by a simplified example from a hypothetical analysis to be conducted in Study A, the impact of financial aid on college choice behavior. Assume that we are interested in determining how student access to a highly selective institution is affected by receipt of a Basic Educational Opportunity Grant (BEOG). Since not all students eligible for BEOGs apply for them, it is possible to establish conditions for a "natural experiment" because there are both recipients and nonrecipients with comparable financial need. The dependent variable for the analysis -- a dichotomous variable reflecting entry vs. non-entry into a highly selective institution -- could be obtained from a knowledge of which CIRP institution the student actually entered in Fall 1975. To simplify the illustration, assume that the study is limited to students whose degree of financial need makes them eligible for BOEGs (the policy or treatment variable), and assume that it is necessary to control one biasing antecedent variable: the student's academic ability as measured by the PSAT administered in the 11th grade. We complete our simplified hypothetical example with the following additional assumptions: (a) the PSAT was not used in making admissions decisions; (b) the student's PSAT score is positively related to the selectivity of the institution of matriculation; and (c) receipt of a BEOG grant is also positively associated with academic ability. Assumption (b) states simply that students with high PSAT scores are more likely to apply to and to be admitted by a selective institution than students with low scores. Assumption (c) states that highly able students more often avail themselves of opportunities to receive BEOG grants. Such a conclusion seems reasonable in view of the fact that more able students are probably more resourceful and, at the same time, more likely to receive strong encouragement from families and secondary schools to take full advantage of financial aid opportunities. To complete our hypothetical study design, let us assume that the colleges under consideration do not differ in cost and that BEOG recipients and eligible nonrecipients have an equivalent degree of need (As we shall see, relaxing these last assumptions compounds the problems created by measurement error.) In summary, the hypothetical analysis involves students with comparable financial need attending institutions of equivalent cost. The students vary in academic ability, include both recipients and nonrecipients of BEOG awards, and attend both selective and nonselective institutions. Our analysis of the three variables -- receipt of BEOG award, ability, and college selectivity -- might involve simply computing the partial correlation between college selectivity and receipt of BEOG award, holding constant the effects of ability. One could also use other multivariate procedures (e.g., analysis of covariance), but whatever statistical approach is used, a positive "effect" of BEOG grants on attendance at a selective college is likely to appear, even if there is in fact no effect. The reason for this is that error in the measurement of academic ability (PSAT score) causes us to underestimate the correlations of ability with both college selectivity and receipt of a BEOG. This underestimation, in turn, causes us to undercorrect for initial ability differences between BEOG recipients and nonrecipients. In the parlance of classical test theory, BEOG recipients and nonrecipients have been statistically equated in terms of their mean observed ability test scores, but they have not been equated in terms of their mean true scores. Since the adjusted "true" score is still positively correlated both with college selectivity and receipt of BEOG award, the observed partial correlation between these latter two variables will also tend to be positive. This bias occurs regardless of whether one computes partial or part correlations. For a complete discussion and proof of this bias see Astin (1970) and Tucker, Damarin and Messick (1966).

Note that the spurious partial correlation between college selectivity and receipt of a BEOG tends to confirm the most plausible theory about the effects of this type of award: that such aid facilitates entry into a more selective or "high quality" institution. The obvious danger here is that policy makers will be tempted to act upon such results because they confirm the most popular theory -- the point of view that led to the adoption of the policy in the first place. Policy makers are thus encouraged to enlarge or otherwise strengthen programs which may in reality be ineffective. Even if such programs are indeed effective, failure to correct for measurement error leads us to overestimate the magnitude of program effects.

It is also worth noting that the bias resulting from measurement error is compounded in more complex analyses where college costs and student financial need are not equivalent but are also allowed to vary. Note that there are likely to be positive associations among the number of these variables: college quality, college cost, student ability, parental income and BEOG grant receipt or scholarship award. Deriving precise estimates of the relationships and interactions among such a large set of collinear variables depends heavily on our ability to make appropriate adjustments for measurement error in certain key variables. Such appropriate adjustments are relatively simple, provided that estimates of reliabilility are available. With such estimates, the simplest solution is to adjust the zero-order correlation matrix by corrections for attenuation. In the present sutdy such corrections can be made with reliability estimates obtained from similiar items appearing on two or more of four independent questionnaire surveys. In cases where items appear in only one questionnaire, reliability estimates can be obtained by reference to similar variables for which estimates have been calculated independently. For example, an empirical study by Boruch and Creager (1972) calculated reliability statistics for many items by re-administering a questionnaire to the same students after a time interval of one to two weeks.

Samples

Data for computing reliability estimates were obtained from a large-scale national study of the impact of federal and state financial aid programs supported by the U.S. Office of Education (Astin and others, 1977). One phase of this study (Study A -- the effects of aid programs on students' college choices) involved assembling a longitudinal data base by merging individual student data from four national surveys:

survey	when administered
Preliminary Scholastic Aptitude Test (PSAT)	October, 1973
Scholastic Aptitude Test (SAT)*	Fall-Winter, 1974-75
American College Testing Program (ACT)	Fall-Winter, 1974-75
Cooperative Institutional Research Program (CIRP)	Fall, 1975

The SAT and ACT involve college admission tests administered in conjunction with a personal data questionnaire. The PSAT involves a test similar to the SAT together with a few personal data questions, and the CIRP is an extensive personal data questionnaire. The PSAT is normally administered to high school juniors, and the SAT and ACT to high school seniors. Each of these testings involves approximately one million students. The CIRP -- a national survey of new college freshmen conducted annually since 1966 -- involves some 325,000 students at a national sample of approximately 600 institutions. Findings reported in this paper were obtained using students (N = 14,865) who participated in all four surveys.

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*The SAT and accompanying questionnaire, which are administered by the Educational Testing Service under contract with the College Entrance Examination Board, are formally called the Admissions Testing Program (ATP). It will be referred to here as the SAT because these initials are more likely to be familiar to readers.

Computing Reliability Estimates With Parallel Questionnaire Items

A number of key variables are repeated in identical or at least parallel form in two or more of the four surveys (see appendix). It should be kept in mind that respondents have answered the same or similar questions separated by time periods from a few months (e.g., between the SAT and ACT) to several years (between the PSAT and CIRP). This overlap provides an opportunity to estimate the degree of measurement error in the following items.

Demographic Data

Sex
Parental income
Number of dependents (in parental family)
Racial or ethnic background
Citizenship status
English as best language

Secondary School Background

High school grades
Years of study by subject
Type of high school (public vs. other)
Type of high school program (college prep vs. other)
Size of high school class
Extracurricular activities

Plans and Aspirations

Highest degree planned
Anticipated major field of study in college
Anticipated place of residence during college
Anticipated extracurricular activities
Need for remedial help and counseling

Aptitude Test Scores

PSAT
SAT
ACT

Estimates of reliability based on these overlapping items will be most accurate in the case of information which is not expected to change from one survey to another -- for example, the respondent's sex or race. Variables such as parental income and high school grades would be expected to show minimal change, especially if the surveys being compared were conducted at approximately the same stage in the student's development (the SAT and ACT surveys, for example, were usually conducted early in the student's senior year). It is important to distinguish changes in "true" scores from changes caused by imprecision in the measuring instrument ("measurement error"). Some items -- choice of major field of study, for example -- might be expected to show changes in "true" scores over even brief periods of time, given that such choices are frequently highly tentative. As the likelihood of such change increases, reliability estimates based on overlapping survey items become increasingly conservative, particularly when the two surveys were conducted at different times. Only when the true score does not change (as is the case for sex), does reliability approach unity. Responses to the sex item on the PSAT, SAT and CIRP were compared (scored as 1 = male, 2 = female) and in each case there was a mean of 1.51 and intercorrelations of .999. These reliabilities are so close to 1.0 that corrections for measurement error would have little effect on the analyses.

Reliability estimates will be lowered not only by changes in true scores and measurement error, but also by differences in item content and form. Although many of the parallel items from questionnaire to questionnaire asked essentially the same question, they sometimes used slightly different response formats, sometimes preceded the item with explanatory language which could affect the student's motivational set. All of these variations will tend to produce reliability estimates that are spuriously low.

Reliability estimates have been computed as Pearson correlation coefficients for continuous and interval data. Many of the variables have been scored dichotomously: for example, race = black vs. all others; participated in student government = yes vs. no. In the case of these dichotomous variables, the calculation of Pearson r results in a correlation coefficient equal to the phi coefficient. While phi (ϕ) can vary from

-1.0 to +1.0, its maximum size will be less than ± 1.0 if the two variables do not have identical base rates of occurence (i.e., if $p \neq p'$, where p and p' refer to corresponding categories in two variables). Thus if one measure of race = black results in a distribution where p (the proportion of blacks) is .15, phi will always be less than 1.0 unless p' (the proportion of blacks based on the other measure) is also .15. Because phi is drastically limited when marginal distributions of the two variables are substantially different, some investigators have proposed using a variation called phi/phi-max, where the obtained value of phi is divided by the maximum value that phi can attain for the given distributions. The maximal phi (phi-max) can be calculated be means of the following formula*

$$\text{phi max} = \sqrt{\left(\frac{p_j}{q_j}\right)\left(\frac{q_i}{p_i}\right)} \quad \text{where} \quad p_i \geq p_j$$

where p_i = largest marginal proportion in a 2 x 2 contingency Table and p_j = the corresponding marginal proportion in the other variable. By calculating phi-max and then using the ratio of the obtained phi to phi-max a coefficient is produced that can always range between -1 and +1 regardless of how discrepant the proportions are in two dichotomous variables. The use of phi/phi-max has been promoted by Cureton (1959) and others, but has been found wanting by Carroll (1961) and Guilford (1965).

In the case of reliability estimates derived from nonidentical pairs of items from the SAT and ACT questionnaires, base rates in either item can be affected by variations in wording, instructions, or format that have nothing to do with measurement error as such. Under these conditions, phi/phi-max probably provides a better estimate of reliability than phi alone. Accordingly, we have included the coefficient phi/phi-max where its calculation is applicable in the expectation that is provides another, and perhaps more realistic, indicator of the intrinsic correlation between dichotomous variables with differing frequency distributions. In addition, to simplify discussion in the text we shall report phi/phi-max unless specified otherwise.

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*J.P. Guilford. Fundamental Statistics in Psychology and Education, 4th ed., McGraw-Hill, 1965, 336.

The Stability of Demographic Items

The test-retest statistics and reliability coefficients for demographic characteristics are presented in Tables 1 and 2. We will proceed to examine each item separately and to discuss how ACT and SAT items were converted to a common form.*

Racial or Ethnic Background

As shown in Table 1, correlations between SAT and ACT responses to racial background items demonstrate varying reliabilities -- from the very stable Black respondents (r = .95, phi/phi-max = .96) to the unreliable respondents in the category "other" (r = .28). The adjusted r (phi/phi-max) for "other" is higher (.41) but still far below what one could consider an acceptable level of reliability. Of course, it is expected that a group with the high degree of identity cohesiveness of Blacks would have superior reliability when compared to the nebulous catch-all category "other". However, some of the racial background categories between the two extremes presented unexpected relationships, prompting a closer examination of item stems and response alternatives in the two surveys. For example, probably all the SAT-ACT correlations represent underestimates of reliability due to the possibility of systematic bias of nonrespondents. The ACT question

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*One purpose of comparing the students' responses to ACT and SAT items was to determine which items from the two questionnaires were sufficiently similar to warrant conversion to a common form.

TABLE 1

Test-Retest Statistics and Reliabilities
for Racial or Ethnic Background

Racial Background	Means (percentages)							Product-Moment Correlations * φ/φ max in parenthesis				
	SAT	ACT	CIRP 1975	CIRP 1969	CIRP 1969-1970 FU	CIRP 1968	CIRP 1968-1972 FU	SAT-ACT (N=11657)	ACT-CIRP 75 (N=11657)	CIRP 75-SAT (N=11657)	CIRP 69-1970 FU (N=17695)	CIRP 68-1972 FU (N=41356)
American Indian	.14	.50	.51	.15	.94	.96	.80	.29 (.55)	.15 (.15)	.29 (.56)	.25 (.40)	.22 (.22)
Black	6.77	6.84	6.73	4.20	4.16	7.87	8.05	.95 (.96)	.95 (.96)	.98 (.99)	.96 (.97)	.96 (.97)
Mexican American	1.05	1.13	1.27					.85 (.89	.77 (.82)	.86 (.95)		
Oriental	.89	.92	.98	1.02	1.14	3.12	3.12	.93 (.95)	.86 (.89)	.89 (.94)	.88 (.93)	.92 (.92)
Puerto Rican American	.29	.49	.29					.59 (.77)	.63 (.82)	.76 (.76)		
White	90.05	88.44	89.96	94.00	91.44	83.44	87.24	.85 (.92)	.81 (.88)	.89 (.90)	.76 (.95)	.75 (.86)
Other	.81	1.69	1.12					.28 (.41)	.24 (.30)	.36 (.42)		

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* Phi coefficients

** Phi/Phi max appears only for pairs of variables that contained sufficient variation in their distributions to compute a φ max

Scoring key: 1 = no
2 = yes

was prefaced by introductory remarks which encouraged nonresponse to the item:

SAT Stem	ACT Stem
How do you describe yourself?	Colleges often provide educational programs and opportunities for students from particular racial or ethnic backgrounds. ACT releases this information only to those institutions that request it. If your background is listed below and you wish to identify yourself, please respond to this item. You are not required to provide this information.

It seems likely that the ACT stem would encourage students with mixed or ambiguous racial backgrounds to opt for a minority rather than a "white" response, and this is precisely what happened: ACT responses produced a lower percentage of whites and higher percentages on every minority category, including "other". As described above, Black was the most reliable response (.96, phi/phi-max = .89), closely followed by Oriental (.95). However, Mexican-American was not as stable as might have been anticipated. The inconsistency of some respondents may be a result either of the inherent ambiguity of certain racial categories (i.e., some persons have mixed racial or ethnic backgrounds), or of variations in the wording of response alternatives. Although both SAT and ACT responses include a category "Mexican-American or Chicano" it is important to note the overlap with the Puerto Rican category (phi/phi-max = .77). The SAT category read simply "Puerto Rican" but the ACT category was "Puerto Rican or Spanish-Speaking American". The Spanish-speaking stipulation may have drawn ACT respondents from the Mexican American category, resulting in lower reliability estimates for both response alternatives.

Responses of "White" were also somewhat less stable than might be expected (phi/phi-max = .92), which may again reflect both ambiguity and differential wording of the response alternatives. The SAT item read "White or Caucasian" while the ACT survey listed "Caucasian American/White".

Although both questionnaires used essentially the same words, the ordering can make an important difference. Many high school students may not be familar with the term "Caucasian" and may respond more readily to a response alternative beginning with the designation "White". This reasoning is borne out by the fact that the SAT item (which begins with White) drew a 90 percent response, in contrast to the ACT item (beginning with "Caucasian American"), which drew 88 percent response.

The least reliable category besides "other" was American Indian (r = .29, phi/phi-max = .55). This highly unstable response probably occurs because so many students have a mixed American Indian-Caucasian heredity that could lead them to classify themselves differently each time they respond to a racial background question. In addition, the ACT item added "Native American" and "Aleutian (Eskimo)" to the American Indian classification which may have also contributed to response instability and to the slightly higher ACT mean -- .54 as compared to .14 for the SAT.

Table 1 also presents correlations of 12th grade SAT and ACT responses with CIRP racial items obtained at college entrance. The ranking of ACT-CIRP and SAT-CIRP reliabilities are identical, although CIRP items correlate better with SAT than with ACT. Here is further evidence of lower reliability of the ACT items. Note that the ACT stem encourages nonresponse: 13.4 percent as compared to 11.0 percent for the SAT.

Additional test-retest correlations were computed for half-year and four-year longitudinal follow ups of CIRP freshman data (see the last two columns of Table 1). Although there were fewer response alternatives to these racial items, the same pattern is clearly apparent: Black is the most reliable response, followed by Oriental and White, with American Indian being by far the most unstable.

Income

Table 2 shows descriptive statistics for the SAT, ACT, and CIRP items on annual parental income. Because of the large proportion of students omitting the income items, only 9,914 students responded to the question on both surveys. Two major problems confronted us in making the items comparable. First was the limited range of response alternatives on the ACT item, where "$20,000 or more" was the highest category. The five categories on the SAT which reflected parental incomes above $20,000 thereby had to be collapsed into the $20,000 category. The second problem was that the SAT item contained more categories below $20,000 than did the ACT item. It was thus necessary to collapse several of the SAT values below $20,000, (see the appendix for the actual items and exact equating specifications.)

Table 3 shows clearly that the ACT item produces an income distribution slightly lower than the SAT. This difference is reflected in two ways in Table 2: The lower mean for ACT coded income, and the higher ACT standard deviation. The higher standard deviation (2.22 for ACT compared to 1.67 for SAT) occurs because the distribution has a pronounced negative skew, with more than 5 times as many ACT as SAT respondents occupying the lowest income category (less than $3,000). Why should these two distributions differ? Since the two surveys were administered at approximately the same time of the year, it is difficult to argue that they reflect inflationary factors. Inspection of the item stems (see appendix) provides a possible explanation. Students taking the SAT were asked simply to indicate the income level of their parents. Students taking the ACT, on the other hand, were asked to report the same information but with the following prefacing instructions: "To plan financial aid programs for entering students, colleges need to know the financial background of their students. Please estimate as accurately as possible your family's income." Considering that students often have to guess or estimate

TABLE 2

Test-Retest Correlations for Five Demographic Characteristics*

Item	Means (percentages)*				Standard Deviations				Correlation Between					
Questionnaire:	PSAT	SAT	ACT	CIRP	PSAT	SAT	ACT	CIRP	PSAT-SAT	PSAT-ACT	PSAT-CIRP	SAT-ACT	ACT-CIRP	SAT-CIRP
Sex (N = 3954)	51	51		51	.50	.50		.50	1.00		1.00			
Parental Income (N = 3954)		6.63	6.63	6.72		1.66	1.93	1.68				.73	.67	.79
Number of Dependents in Parental Family (N = 5843)		3.03	2.83			1.53	1.46					.88		
U.S. Citizen (N = 5843)	99		99							.42				
English Best Language (N = 5843)		98.4	98.8									.11		

Scoring Key

Sex:
All Surveys
1 = male
2 = female

Parental Income:
SAT and ACT
1 = less than $3,000
2 = $3,000 - 5,999
3 = $6,000 - 7,499
4 = $7,500 - 8,999
5 = $9,000 - 11,999
6 = $12,000 - 14,999
7 = $15,000 - 19,999
8 = $20,000 or more

CIRP
1 = less than $3,000
2 = $3,000 - 5,999
3 = $6,000 - 7,999
4 = $8,000 - 9,999
5 = $10,000 - 12,499
6 = $12,500 - 14,999
7 = $15,000 - 19,999
8 = $20,000 Or more

Number of Dependents:
SAT and ACT
1 = none
2 = one
3 = two
4 = three
5 = four
6 = five
7 = six or more

U.S. Citizen:
PSAT and ACT
1 = no
2 = yes

English Best Language:
SAT and ACT
1 = no
2 = yes

Note: Standard deviations for dichotomous variables, which are derivable simply from the mean and N, are not shown.
*except for Parental Income and Number of Dependents which were continuous variables rather than dichotomous.

TABLE 3

Crosstabulation of SAT and ACT Responses to Parental Income Items
(N = 9914)

SAT Parental Income	ACT Parental Income Row Percentages (N's in parentheses)									
	less than $3,000	$3,000-5,999	$6,000-7,499	$7,500-8,999	$9,000-11,999	$12,000 14,997	$15,000 19,999	$20,000 or more	Row Total N	Column Percent
less than $3,000	61.3 (65)	25.5 (27)	3.8 (4)	0.0 (0)	0.0 (0)	2.8 (3)	1.9 (2)	4.7 (5)	106	1.1
$3,000 - 5,999	10.2 (35)	66.1 (226)	12.3 (42)	3.2 (11)	3.2 (11)	1.5 (5)	2.3 (8)	1.2 (4)	342	3.4
$6,000 - 7,499	8.6 (25)	15.1 (44)	45.9 (134)	17.1 (50)	8.6 (25)	3.4 (10)	0.3 (1)	1.0 (3)	292	2.9
$7,500 - 8,999	2.3 (9)	3.9 (15)	13.9 (54)	54.5 (212)	18.5 (72)	3.1 (12)	1.3 (5)	2.6 (10)	389	3.9
$9,000 - 11,999	3.6 (42)	1.3 (15)	2.2 (26)	8.9 (103)	66.1 (768)	12.9 (150)	3.4 (40)	1.5 (17)	1161	11.7
$12,000 - 14,997	4.6 (63)	0.4 (6)	1.1 (15)	2.0 (28)	15.9 (220)	61.8 (854)	11.4 (158)	2.7 (38)	1382	13.9
$15,000 - 19,999	5.3 (109)	0.2 (5)	0.5 (10)	1.0 (20)	3.8 (78)	16.9 (348)	62.3 (1282)	10.0 (206)	2058	20.8
$20,000 or more	6.6 (278)	0.3 (13)	0.3 (11)	0.5 (20)	0.8 (35)	2.4 (100)	8.6 (361)	80.4 (3366)	4184	42.2

their parents' income because they do not have precise knowledge of the actual figure, these instructions would seem to encourage a downward bias in estimation among those students who think it might help them obtain financial aid. Indeed, one would be surprised not to find lower incomes being reported by 12th graders in response to such instructions.

Incomes from the SAT and ACT surveys had a modest correlation (r = .73). Interestingly enough, SAT income (even with the top categories collapsed) correlates better (r = .79) with CIRP income reported one year later. The poorest correlation was between ACT and CIRP income (r = .67). These differences suggest clearly that the ACT item provides an inferior measure of parental income. In all likelihood the measure has been weakened by two factors: instructions which encourage students to bias their estimates downwards, and the response alternative, "I consider this information confidential," which may have produced a systematic bias in those who decided not to respond to the ACT item.

How good is the correlation of .79 between SAT and CIRP income items? Certainly this must be regarded as an underestimate of the true reliability of self-reported parental incomes, for at least three reasons. First is the fact that SAT and CIRP income scales had to be truncated at the $20,000 level to be comparable with the ACT item. Since inflationary factors in the interim between 12th grade and college entry would force some of the CIRP incomes into the top ($20,000) category, variance in CIRP incomes would be changed. Without a comparable change in SAT income variance, the correlation would be attenuated. A second factor is that there will be differential changes in true parental income between the SAT testing and the CIRP survey of entering freshmen. Finally, the four middle income categories are not identical for SAT and CIRP (see Table 2). Considering all three factors, it is perhaps remarkable that a correlation as high as .79 was obtained between the two estimates. If a better measure of ACT income had been available (thus obviating the need to collapse the top categories on SAT income), one would expect a much higher correlation. This expectation is supported by the evidence reported by Boruch and Creager (1972) which indicated a test-retest reliability of .98 for self-reported parental income using the same CIRP questionnaire administered two weeks apart.

Number of Dependents

The SAT and ACT measures of the number of other dependents in the parental family presented a minor problem in compatability of response options: the highest ACT values had to be collapsed into "six or more" to correspond with the highest SAT response option. The stems of the two items, however, could produce substantially different "true" responses. SAT asks how many siblings are financially dependent upon the parents, while ACT asks for the number of siblings under 21 years old. The SAT item refers directly to financial dependence, with no age limitation, but the ACT item refers only to age without reference to financial dependence. Obviously some respondents have siblings under 21 who are not dependent, while others have siblings over 21 who are dependent. These problems will produce differences in true scores that will reduce reliability estimates. Neither can one ignore the fact that the true score for this item can change even in the short time between survey administrations* because of birthdays, births, deaths, marriages, and the like. Additionally, since the SAT item stem does not specify total financial dependence, it is reasonable to suppose that some respondents are including as dependents, graduate students or married siblings.

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*Although most ACTs and SATs were administered mid-way through the twelfth grade, the interval between the two testings for some students could be as long as 12 months (e.g., Spring, 1974 to Spring, 1975).

Items on United States citizenship appeared on the PSAT and ACT questionnaires. Table 2 shows that 99 percent responded positively to each of the surveys. However, the modest correlation between the two (r = .42, phi/phi-max =.43) is lower than might be expected. A closer examination of the wording of the item in each survey (see appendix) reveals two possible explanations. While the ACT item calls simply for a positive or negative response to "I am a United States citizen," the PSAT item asks "Are you now a United States citizen or planning to obtain U.S. citizenship when qualified to do so?" Clearly, the small number of respondents who are not U.S. citizens may certainly have different true scores for the two differently worded items. It is also possible that during the time interval between the two survey administrations (typically a one year lapse between the PSAT taken in the 11th grade and the ACT in the 12th grade) there may have been a small number of respondents who became naturalized citizens, again accounting for different true scores, and an underestimation of item reliability.

English Best Language

Both ACT and SAT contain items about speaking the English language which initially were considered to be comparable. The similar means of the two items as shown in Table 2 indicate that most students responded affirmatively to both the ACT and SAT items. However, the very low correlation between the two (r = .11, phi/phi-max = .12) suggests that the ACT and SAT items are not really comparable. Although both items provide dichotomous yes or no response alternatives, the item stems (see appendix) reveal differences that may have a great impact on the small number of students who might not respond affirmatively to either item. The crosstabulation in Table 4 shows that, of the 1.2 percent who respond "no" to the ACT item -- English is not the language most frequently spoken at home, four-fifths (80.5 percent) respond "yes" to the SAT item (English is their best language). Apparently, most students who come from homes where languages other than English are spoken have been "Americanized" and consider themselves most fluent in English. On the other hand, of the 1.6 percent who respond negatively to the SAT item (English is not their best language), 85.4 percent report on the ACT item that English is most frequently spoken in their home. One possible reason for this discrepancy is that many bilingual students may not consider English their best language, even though it is spoken in the home. Immigrant families, for example, may consciously speak English at home in order to improve their facility with the language. It is also possible that some students may have been recently placed (through adoption, divorce, immigration, etc.) in a home where the dominant English language is different from their own. Still other students may have misunderstood the intent of the item, responding in terms of their own poor opinions of their English as reflected in poor performance in English classes or the like. Whatever the reason, the different wording of these two items reduces the consistency of responses to the point where the two items must be regarded as noncomparable despite their similar intent.

Secondary School Background

Several items describing various aspects of the students' secondary school backgrounds overlapped in the ACT and SAT questionnaires: high school grades, years of study by subject area, participation in extracurricular activities, and the type (control), curricular program, and class size of the high school.

TABLE 4

Crosstabulation of SAT and ACT responses to English Best Language Items

SAT Response	ACT Responses		Totals	
	No	Yes	N	%
yes	128	12,685	12,813	98.4
no	31	182	213	1.6
Total N	159	12,867	13,026	
Percent	1.2	98.8		100.0

High School Grades

Unlike the ACT and CIRP surveys, the SAT questionnaires did not contain an item on overall high school grades. Instead, it asked students to report their most recent grades in six subject areas: English, mathematics, foreign languages, biological sciences, physical sciences, and social studies. (See appendix for exact language of all items and conversions.) In order to make the SAT information comparable to that collected by the other surveys, we had to develop an overall high school grade point average (GPA) for SAT. The first step was to estimate a GPA by assigning percentage scores to each SAT grade category as follows: A = 95, B = 85, C = 75, D = 65, F = 55. The percentage scores were then summed weighting the English score by 3, mathematics by 2, and all others by 1. The sum of weighted scores was divided by the number of grades reported by the student, resulting in a mean high school GPA in percentage form. The ACT high school GPA was then empirically converted to SAT percentage equivalents by the equipercentile method (N = 14,868).*

The correlation between the original ACT high school GPA and the converted ACT GPA percentile was .99, indicating a near-perfect conversion. This percentile ACT socre had moderately high correlations (Table 6) with the SAT percentile grades (r = .77), CIRP high school GPA (r = .80), and PSAT high school grades (r = .75).

Years of Study

The ACT and SAT questionnaires contained similar items regarding the number of years of study in several subject areas. Table 5 shows the parallel

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*Earlier attempts to convert SAT and ACT proved to be much less satisfactory, primarily because of the large amount of information lost in reducing the SAT percentile to the simpler 7 - point scale of the ACT.

TABLE 5

Test-Retest Statistics and Reliabilities for Years of High School Study by Subject*

(N = 3849)

Subject	Means		Standard Deviations		Test-Retest Reliability
	SAT	ACT	SAT	ACT	$\underline{r}_{SAT-ACT}$
English	4.93	4.93	.35	.30	.32
Mathematics	4.48	4.50	.73	.71	.81
Foreign Language	3.43	3.33	1.10	1.08	.85
Natural Science	4.06	4.04	.96	.95	.65
Social Studies	4.12	4.21	.81	.75	.70

*Scoring key:
5 = More than three years
4 = Three years or two and a half years
3 = Two years or one and a half years
2 = One year or half-year
1 = None

ACT and SAT means and standard deviations for the five overlapping subject areas. That the responses are not more highly correlated is no doubt a reflection in part of differences in when the students took the SAT and ACT. Responses to years of studying English had the highest mean and lowest standard deviation, probably because most colleges require at least three and often four years of English for admission. The unexpectedly low correlation between the SAT and ACT measures (r = .32) might be a consequence of the low variance, and variations in what constitutes an "English" course. Many secondary schools provide a wide range of such courses, especially during the last year. Students might consider a course on Shakespeare to be "English" when answering one survey, but think of it as "theater" when responding to the item a second time. The same confusion may occur with courses such as literature, creative writing, business writing, communication skills, and the like -- all of which may or may not be included in the "English" category. The highest retest reliabilities were for mathematics (r = .81) and foreign language (r = .85), which are distinct subject areas having minimal overlap with other areas of the high school curriculum.

The correlation between SAT and ACT measures in years of studying natural science (r = .65) has probably been attenuated by collapsing two SAT items (biological sciences and physical sciences) into a single subject category to be compatible with the ACT item "natural sciences (biology, chemistry, physics)." The correlation of the social studies item (r = .70) was a bit higher, probably because each questionnaire had a single social studies item. However, this correlation was no doubt attenuated by the fact that the ACT item added the parenthetical explanation "(history, civics, geography, economics)." Such specificity may have changed the respondents' true scores by encompassing more courses than they would ordinarily consider to be social studies -- an arguement that is supported by the higher ACT mean for this item.

High School Type

Both the SAT and ACT questionnaires inquired as to whether the respondents' high school was publicly or privately controlled. Although the ACT item listed many types of private schools (Catholic independent, denominational, and military), the item was collapsed into a dichotomous "public versus private" code for compatibility with the SAT item. The descriptive statistics in Table 6 show that 81 percent of the responses to both the SAT and ACT are "public". The correlation of .91 (both corrected and uncorrected) between the two surveys can be considered a conservative estimate of the true reliability of this item, given the difference in the stems which might have affected the reported true score in a small number of cases. The SAT item asks about the high school currently attended while the ACT item asks for the school from which the respondent will (or did) graduate. For some students the school attended when responding to the SAT may be different from the institution presenting the high school diploma. Also, a few students may confuse the school where they take the test with the school they attend. Finally, some students may actually have changed high school types between the SAT and ACT administrations. With these considerations, the obtained correlation of .91 suggests the kind of high reliability expected from a straightforward factual item.

High School Program

Items describing the high school program had similar stems in the SAT, ACT, and CIRP questionnaires, but differences in response alternatives and in perceptions over time have probably contributed to reduced reliability estimates. As can be seen in the appendix, the separate SAT alternative "General" following the "Academic or college preparatory" option might influence some students to classify their curriculum as general on the

TABLE 6

Test-Retest Statistics
for Four High School Background Items

Item	Means				Correlation Between (ϕ/ϕ max in parenthesis)				
	Psat	SAT	ACT	CIRP	PSAT-SAT	PSAT-ACT	SAT-ACT	ACT-CIRP	SAT-CIRP
*High School Grades (N = 14000)	5.39	88.17	87.48	5.93	.77	.75	.77	.80	.79
**High School Program was College Prep (N = 3954)		.89	.90	.98			.52 (.55)	.28 (.65)	.25 (.61)
**High School was public (N = 5843)		.81	.81				.91 (.91)		
**High School Class Size Greater than 100 (N = 5843)		.90	.88				.78 (.87)		

*Scoring key for High School GPA: SAT and ACT scored as a percentile range from 64 to 95

PSAT
1 = D or below (67 or below)
2 = C-, D+ (68-72)
3 = C (73-77)
4 = B-, C+ (78-83)
5 = B (84-88)
6 = A-, B+ (89-94)
7 = A (95-100)

CIRP
1 = D
2 = C
3 = C+
4 = B-
5 = B
6 = B+
7 = A-
8 = A, A+

**Scoring key for "High School Program was College Prep," "High School was Public", and "High School Class Size Greater than 100" 1 = no, 2 = yes

SAT but not on the ACT, where "general" appeared at the end of the list and in combination with "other". Table 6 supports this reasoning: the SAT mean (89 percent) is lower than the ACT mean (90 percent). The CIRP item, which had only two response alternatives, elicited a substantially higher response rate (98 percent) for the college preparatory option. This high CIRP mean probably reflects the distortions accompanying the hindsight of students who have already matriculated at college: "I'm in college, so my high school program must have been college prep." Thus, the very modest unadjusted correlation of the two 12th grade surveys (r = .52) is reduced to .28 and .25 when CIRP is correlated with ACT and SAT respectively. These three coefficients, however, increase to .55, .65, and .61, respectively, when the phi/phi-max correction is introduced.

Class Size

Although the SAT and ACT items regarding size of the high school class are almost identical, the response alternatives (see appendix) are so different that comparability could be achieved only after reducing both to a dichotomous response of fewer than 100 versus 100 or more students. Considering this loss of variance in the response distributions, and considering that some students changed schools between testings, the reliability (phi/phi-max = .87) is reasonable.

Extracurricular Activities

Items about extracurricular activities in high school have similar stems in the two 12th grade surveys, but the ACT questionnaire listed a larger number of activities than did the SAT item. Table 7 reports means and correlation coefficients for each type of activity. The most reliable items were those reporting participation in student government (phi/phi-max = .84), religious organizations (.69), and ethnic or racial organizations (.64). Each of these three activity areas had a one to one correspondence of

TABLE 7

Test-Retest Statistics and Reliabilities
for High School and College Extracurricular Activities*
(N = 5914)

Extracurricular Activity	Means (percentages) SAT	Means (percentages) ACT	Test-Retest Reliability $r_{SAT-ACT}$ (φ/φ max in parenthesis)
Participated in High School:			
Athletics	71	32	.42(.45)
Ethnic or racial	6	4	.52(.64)
Journalism, debate, drama	39	3	.17(.77)
Music	43	10	.35(.92)
Preprofessional or departmental	21	47	.31(.89)
Religious	47	40	.60(.69)
Social or Community Service	55	11	.20(.51)
Student Government	35	40	.76(.84)
Anticipate Participation in College:			
Athletics	59	31	.46(.58)
Ethnic or racial	8	10	.46(.52)
Journalism	33	5	.25(.76)
Music	29	11	.40(.73)
Preprofessional or departmental	27	55	.28(.42)
Religious	33	38	.64(.71)
Social or Community Service	55	28	.26(.38)
Student Government	30	45	.55(.76)

*Scoring key: 2 = yes
1 = no

response alternatives (see appendix) so that collapsing was not necessary. Also, each deals with a discreet, reasonably unambiguous reference group: student government, religion, and ethnic group. Means for these items are also more similar than means for other items in Table 7.

The other areas of extracurricular activity show unequal rates of affirmative response to the SAT and ACT questionnaires and lower reliability estimates. In most cases the dissimilar means probably reflect variation in "true" scores (see appendix for exact wording). For example, the SAT questionnaire listed a single activity area as "journalism, debating, or dramatic activities." The parallel item in the ACT questionnaire contained three separate response categories: Publications (newspaper, yearbook, literary magazine); Debate; and Dramatics, theater. Although these three ACT items were combined in an attempt to make them comparable to the single SAT item, the uncorrected reliability estimate (r = .17) is clearly too low to make the item of much use. Phi/phi-max, however, increases the estimate to .77. The same problem occurs for social or community service (r = .20 corrected to .51), music (r = .35 corrected to .92), and athletics (r = .42 corrected to .45), each of which required compromises in editing for comparability (see appendix). In the area of preprofessional of departmental clubs a close examination of the items shows that the SAT wording indicates a more formal and structured type of organizational membership (e.g. "American Society of Civil Engineers") than does the less formal wording of the ACT ("Science club"). This reasoning is supported by the much lower affirmative response to the SAT item (mean of 21) than the ACT item (mean of 47), and by the low uncorrected correlation (r = .31) between the two surveys. Correcting with phi/phi-max, however, increases the correlation to a respectible .89.

College Plans and Aspirations

Items involving future plans for the college years can be expected to show the least stability. Demographic information is the most stable as it deals with well-known and highly visible facts that ordinarily do not change over time (e.g. race, sex). Items dealing with secondary school background are somewhat less stable, but they show a fairly high degree of consistency because they involve factual information from recent experience. Perceptions of future plans and aspirations, however, are subject to real fluctuations in "true" scores -- for example, students often change their minds about college majors -- which compounds the problem of dealing with measurement error in survey research. The SAT and ACT questionnaires contained overlapping items about college plans in five areas: highest degree planned, major, place of residence, extracurricular activities, and areas in which the student needs help. In addition, the CIRP questionnaire, completed at college entrance, contains items on highest degree, major, and place of residence; these items can be used to compute stability estimates from 12th grade to college entrance.

Highest Degree Planned

The educational aspirations items of the SAT and ACT questionnaires are almost identical, and with some collapsing of response alternatives the CIRP item is also comparable. Descriptive statistics and intercorrelations of the items are shown in Table 8. A cursory examination of the figures shows a greater stability for the higher educational levels, and very poor agreement for the two response options below the baccalaureate level. As would be expected for a select population that has taken the PSAT, SAT, and ACT and entered college, only one percent aspire to either "vocational" or associate degrees.

TABLE 8

Test-Retest Statistics and Reliabilities for Highest Level of Educational Aspiration*

(N = 3954)

Educational Level	Means (percentages)			Correlations Between 0/0 max in parenthesis		
	SAT	ACT	CIRP	SAT-ACT	ACT-CIRP	SAT-CIRP
No degree or Vocational Program	1	0	0	.14 (.39)	XX	XX
AA	1	1	1	.24 (.24)	.36 (.36)	.25 (.25)
BA	34	33	29	.68 (.69)	.50 (.55)	.47 (.53)
MA	31	28	32	.56 (.60)	.36 (.40)	.36 (.37)
Doc/Prof	34	37	37	.77 (.82)	.61 (.61)	.62 (.66)
Other/Undecided **	0	0	0	XX	XX	XX
Level of Aspiration ***	2.97	3.00	3.06	.77	.62	.61

*Scoring key: 2 = yes
1 = no

**Correlation coefficients could not be computed for this category because none of the respondents in the sample was "other/undecided"

***Level of Aspiration variable was computed from self-reported degree aspirations as follows: 4 = Doctoral or Professional (Ph.D., M.D., J.D., ect.); 3 = Master's: 2 = Bachelor's; 1 = Associate; 0 = Other or none 1 = Associate; 0 = other or none

The relatively high correlation between SAT and ACT responses at the BA level (phi/phi-max = .69) are reduced to .55 and .53 , respectively, when ACT and SAT are correlated with the CIRP item. This greater agreement between the 12th grade responses is consistent with our expectation that plans change in the interval between 12th grade and college entrance. Examination of the means for each level supports this assumption: the CIRP BA mean is lower than the 12th grade means, but slightly higher at the MA and doctoral levels. This result suggests that expectations increase as students move through the educational system. We should also note that responses at the "doctoral/professional" level in the 12th grade not only draw the most consistency between SAT and ACT (phi/phi-max = .82), but they are also the most stable over time as indicated by the coefficients of .61 and .66 with CIRP responses. The last row of figures in Table 8 indicates the level of educational aspiration when the five dichotomous categories are combined in a continuous scale scored from 0 to 4. The mean level of aspirations increases as students move closer to the college experience (SAT and ACT means of 2.97 and 3.00; CIRP mean = 3.06), offering further support for the pattern of increasing aspirations noted earlier.

Major Field of Study

Although the SAT, ACT, and CIRP questionnaires contained very similar questions regarding anticipated major field of study in college, the response alternatives were very different. SAT listed nearly 210 majors to choose from, ACT had 195 and CIRP 77. To make the data from the three surveys as comparable as possible, a mixed rational-empirical scheme was adopted. Identical or near-identical alternatives were equated on an *a priori* basis. For more ambiguous categories (usually involving very small percentages of respondents), SAT and ACT responses were crosstabulated so that major categories from one questionnaire could be empirically matched with categories on the other. The common final coding scheme consists of 160 major field categories and is documented in the appendix. For the present purpose of computing reliability estimates, these were collapsed into nine broad academic areas: biological science, business, education, engineering, health sciences, mathematics, social sciences, physical sciences and undecided.

An overview of Table 9 suggests the same pattern that emerged from the degree aspiration data: response stability decreases as the time interval between surveys increases. The majors drawing the most stable responses from the SAT and ACT surveys are engineering (phi/phi max = .81), mathematics (.73), health sciences (.78) and business (.71). These three groups are also among the most stable when correlated with CIRP freshman responses, although the decreased relationship over the intervening months between the 12th grade and college entrance probably reflects changes in plans. Fields with more modest reliabilities were education (phi/phi-max = .66), social sciences (.60), physical sciences (.70, and biological sciences (.54). Students who were "undecided" about their major in college were the least stable: The correlation (phi/phi-max) between SAT and ACT responses was .34; correlations with the later CIRP survey were only .17 and .21. Considering the many factors other than measurement error that could reduce these correlations involving probable college major -- different coding schemes, variations in time between testings, real changes in plans -- the agreement between SAT and ACT major field responses is substantial.

Residence

Both SAT and ACT questionnaires contained an item on anticipated place of residence at college; the CIRP survey asked freshmen where

TABLE 9

Test-Retest Statistics and Reliabilities for Selected Major Fields of Study in College*

(N = 5843)

Major	Means (percentages)			Correlations Between (ϕ/ϕ max in parenthesis)		
	SAT	ACT	CIRP	SAT-ACT	ACT-CIRP	SAT-CIRP
Biological Science	8	7	12	.50 (.54)	.37 (.50)	.31 (.39)
Business	9	9	14	.71 (.71)	.57 (.73)	.54 (.69)
Education	8	8	9	.66 (.66)	.50 (.53)	.48 (.51)
Engineering	8	9	12	.76 (.81)	.62 (.73)	.58 (.73)
Health Sciences	19	21	14	.73 (.78)	.48 (.62)	.45 (.54)
Mathematics	3	2	4	.59 (.73)	.27 (.39)	.26 (.30)
Social Sciences	12	12	10	.60 (.60)	.46 (.51)	.46 (.51)
Physical Sciences	4	3	6	.60 (.70)	.33 (.47)	.34 (.42)
Undecided	6	6	6	.34 (.34)	.17 (.17)	.21 (.21)

*Scoring key: 2 = yes
1 = no

They would actually be living during the fall term. The conversion of response alternatives caused no major problems in comparability (see appendix), and the resulting correlations are presented in Table 10. In general it would appear that many students are uncertain as to whether they will be residents or commuters, even in the twelfth grade. The most consistent response to the 12th grade surveys are plans to reside with parents (phi/phi-max = .68) and in a dormitory (.64). These coefficients are somewhat lower for CIRP-ACT (.64 and .47, respectively), and even lower for the CIRP-SAT (.56 and .41). These large decreases from 12th grade to college entry are caused in part by the relatively large decline in students who say they will live in fraternity or sorority houses and off-campus apartments. Fraternity or sorority living and living in an off-campus apartment show only borderline consistency, and "other campus housing" has no consistency, even between SAT and ACT. This latter item was handicapped by substantial dissimilarity between surveys: The SAT questionnaire listed "on-campus apartment", the ACT item was "married student housing" and the CIRP freshman survey was worded "other campus student housing." These are not only poorly defined types of housing, but they are probably unfamilar to most prospective college students.

Extracurricular Activities in College

SAT and ACT items regarding anticipated college extracurricular activities were identical to the high school activity items (See Table 7), so that the same collapsing and recoding scheme was applied to achieve comparability. Compared to the high school items, the SAT-ACT correlations for anticipated college activities were generally smaller, most likely because of the problematic nature of such plans. The relative stability

TABLE 10

Test-Retest Statistics and Reliabilities for College Residence Plans*

(N = 5914)

Anticipated Residence During College	Means (percentages)			Correlations Between (ϕ/ϕ max in parenthesis)		
	SAT	ACT	CIRP	SAT-ACT	ACT-CIRP	SAT-CIRP
Parents	10	11	13	.65 (.68)	.58 (.64)	.48 (.56)
Dormitory	76	81	83	.55 (.64)	.44 (.47)	.33 (.41)
Fraternity or Sorority House	5	4	1	.48 (.54)	.15 (.31)	.12 (.27)
Other Campus Housing	5	0	1	.03 (.03)	-.01 (-.01)	.02 (.05)
Off-Campus Apartment	3	4	1	.36 (.42)	.05 (.10)	.06 (.11)

*Scoring key: 2 = yes
1 = no

of the different items, was similar. The most consistent responses are for religious activities (phi/phi-max = .71), student government (r = .55), music (.73) and journalism (.76). Note, however, that the uncorrected coefficients for music and journalism are among the lowest of all owing to the substantial difference in base rates. The most likely explanation for the much lower endorsement of these items among ACT students is the placement of the item in the questionnaire is nearly 50 items ahead of the high school activity item, while the SAT format has the college item immediately following the high school item. Those who have just responded that they have participated in an activity in high school are more likely to respond that they will also participate in college. Modest correlations were found for athletics (phi/phi-max = .58), and ethnic or racial organizations (.52). The least agreement occurs with preprofessional or departmental activities (.42) and social or community service (.38). Considering the problems of comparability already discussed, and the speculative nature of such questions, the relatively low agreement of these items is not unexpected.

Help Needed

Although the SAT and ACT items regarding remedial help and counseling appear to be comparable (see appendix) a closer lood at Table 11 suggests subtle but important differences in the two questionnaires. The ACT means are consistently and substantially higher than the SAT means, indicating a greater frequency of affirmative response to the ACT questions. This differential response tendency is probably a function of the language of the item stem:

SAT Stem	ACT Stem
You may want to receive help outside regular course work from the college you plan to attend. If so, blacken the letter for each area which you need help.	Many colleges offer special assistance for the individual development of sutdents. You may wish to seek such assistance. Please respond Y yes or N no to each item.

The SAT item clearly states that the "help" would be outside regular course work. Some students may assume that an affirmative response on the

TABLE 11

Test-Retest Statistics and Reliabilities for Reported Need of Academic Skill Improvement and Counseling*

	Means		Retest Reliability
	SAT	ACT	
Reading Skills	17	34	.43 (.68)
Writing Skills	14	25	.30 (.43)
Mathematical Skills	15	33	.42 (.60)
Study Skills	19	29	.43 (.57)
Educational and Vocational Counseling	38	45	.29 (.33)
Personal Counseling	4	33	.17 (.68)

*Scoring key: 2 = yes, need help in this area
1 = no, do not need help in this area

SAT is tantamount ot signing up for extra course work -- not a popular concept. The general tone of the SAT item stem is authoratative (the last sentence is a directive without a "please") and connotes a tone of unpreparedness and inadequacy by mentioning "needing help" twice. This language may promote reluctance to respond positively among students who may not wish to appear inferior or unprepared. The ACT item stem, on the other hand, avoids the concept of "needing help" in favor of "offer special assistance for the individual development of students." This more supportive wording apparently creates a more responsive set among the students. The ACT stem, moreover, does not suggest the likelihood of extra work outside of regular courses, which probably adds to the respondent's positive motivational set.

The highest adjusted SAT-ACT correlations were obtained for help with reading skills (phi/phi-max = .68), study skills (.57), mathematical skills (.60), and personal counseling (.68). Given the differences in item stems and the fact that the questions ask for projections into the future (always an uncertain situation) these modest correlations are reasonable. Note that the unadjusted phi for the personal counseling item is very low (.17). The ACT item read "I would like personal counseling," while the SAT item used the somewhat defense-triggering language of needing help in "counseling about personal problems". This assumption that this wording had a negative impact on students is supported by the large discrepancy in the frequency of affirmative response to the two surveys -- 33 percent for ACT and only 4 percent for the SAT.

Aptitude Test Scores

The longitudinal data file contains three sets of aptitude measures: the PSAT taken in the 11th grade, and the SAT and ACT administered in the 12th grade. The PSAT and SAT scores are directly comparable as they both contain verbal and mathematical subtests scored on a common scale (the) SAT containing an extra units digit). The ACT socres are not entirely comparable because they are reported as four subtests -- English, mathematics, social sciences, and natural science.

It was anticipated that the ACT English subtest score would be comparable to the SAT verbal score, but the correlation coefficients in Table 12 show an unexpectedly low relationship between ACT English and SAT verbal (r = .69). In fact, the ACT English subtest correlates less with SAT scores than do any of the other three ACT subtests. These results prompted an empirical investigation to find an algorithm for creating an ACT score which would be more comparable to SAT and PSAT verbal subtests.

An analysis (N = 14,865) in which SAT verbal was regressed on the three non-mathematical ACT subtests (English, social science, and natural science) produced a multiple R of .82. Clearly, these three ACT subtests provide a better equivalent of SAT verbal than the ACT English test alone. Since each of the three ACT subtests obtained beta weights of similar size, it appeared that each contributed equally to the prediction of SAT verbal. These findings prompted a decision to construct an ACT "Verbal" equivalent simply by summing the ACT English, social science, and natural science subtests. The range of scores on this combined scale was 3 to 108. For purposes of making ACT and SAT verbal scores interchangeable, this combined score was converted to an equivalent SAT verbal measure (range 200-800) by the equipercentile method (N = 14,865, see appendix). This new score correlated .81 with SAT verbal -- only slightly less than the multiple R of .82.

Although each of the three aptitude test batteries is independently administered and it not represented as being an "alternative form" of any other, the high correlation of parallel scores (see Table 12) indicates that they are nearly as reliable as test-retests with the same (or alternative forms of the same) instrument. For example, the PSAT score can be viewed

Table 12

Statistics and Correlations for Three Aptitude Tests
(N=14865)

			Product-Moment Correlations											
Aptitude Test	Mean	Standard Deviation	PSAT Verbal	PSAT Math	PSAT Composite	SAT Verbal	SAT Math	SAT Composite	ACT* "Verbal" Equivalent	ACT Math	ACT English	ACT Social Science	ACT Natural Science	ACT Composite
PSAT Verbal	45.62	10.43	1.00	.62	.90	.85	.60	.80	.78	.53	.68	.71	.68	.76
PSAT Math	50.15	10.96	.62	1.00	.91	.63	.86	.83	.69	.80	.54	.59	.67	.77
PSAT Composite	95.75	19.30	.90	.91	1.00	.82	.81	.90	.81	.74	.67	.72	.75	.85
SAT Verbal	474.57	100.46	.85	.63	.82	1.00	.64	.90	.81	.56	.69	.73	.70	.78
SAT Math	520.94	109.96	.60	.86	.81	.64	1.00	.91	.69	.82	.53	.58	.68	.78
SAT Composite	995.52	190.39	.80	.83	.90	.90	.91	1.00	.82	.77	.67	.72	.76	.86
ACT "Verbal" Equivalent	66.88	15.37	.78	.69	.81	.81	.69	.82	1.00	.69	.80	.92	.89	.97
ACT Math	23.09	6.74	.53	.80	.74	.56	.82	.77	.69	1.00	.53	.60	.68	.84
ACT English	20.62	4.66	.68	.54	.67	.69	.53	.67	.80	.53	1.00	.62	.59	.77
ACT Social Science	21.71	6.78	.71	.59	.72	.73	.58	.72	.92	.60	.62	1.00	.73	.88
ACT Natural Science	24.56	6.04	.68	.67	.75	.70	.68	.76	.89	.68	.59	.73	1.00	.89
ACT Composite	22.62	5.16	.76	.77	.85	.78	.78	.86	.97	.84	.77	.88	.89	1.00

*ACT "Verbal" Equivalent was calculated by summing the three non-mathematical ACT subtests: ACT "Verbal" = ACT English + ACT Social Science + ACT Natural Science as the SAT score divided by ten. (This assumption is supported by the high correlation between parallel PSAT and SAT scales: verbal r = .85, math r = .86, composite r = .90). The means in Table 12 (with PSAT scores multiplied by ten) show an overall PSAT-SAT increase of 19 points each for verbal and math scores, and 38 points for the composite score.

	PSAT X 10	SAT
Verbal mean	456	475
Math mean	502	521
Composite mean	958	996

This small and consistent increase of the SAT score over the PSAT score can be attributed to the year or so of schooling received by students between the administrations of the early PSAT in the 11th grade and the SAT in the 12th grade.* Although direct comparison of ACT scores with PSAT and SAT is made more difficult by differences in subtest categories and scoring scales, the ACT correlation coefficients presented in Table 12 are only slightly lower than those of the SAT and PSAT, and document the highly similar nature of these three tests. For example, ACT-PSAT correlations involving "verbal", math, and composite scores (.78, .80, .85 respectively) are not substantially different from the corresponding ACT-SAT correlations (.81, .82, and .86, respectively). For the most part, these batteries (with appropriate combining of three ACT subtests) can be regarded as alternate forms of the same test.

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*It may also be, of course, that these differences have been affected by variations in the PSAT and SAT norming procedures.

Conclusions

Questionnaire data from four independently conducted national surveys had provided an opportunity to estimate "test-retest" reliabilities for a variety of survey items. In general, satisfactorily high reliabilities can be obtained for factual information which is not expected to change with time and which can be defined relatively unambiguously. Such items include the student's sex, racial and religious background, and number of dependents in the family. Even these items, however, can produce spuriously low reliability estimates because of minor alterations in item wording. Objective or factual items which can be expected to change with time, such as parental income and type of high school attended, show slightly lower reliabilities. The lowest estimates of test-retest reliability occur either with factual items that are defined ambiguously (high school activities) or with subjective judgements which might be expected to change with time (degree plans, major field of study plans, expected activities in college).

In addition to errors of measurement, reliability estimates from independent surveys can be attenuated by at least three conditions: variation in item stems or instructions, variations in response alternatives, and changes in "true" scores (for example, switching high schools or changes in study plans). For this reason, the empirical estimates of reliability reported in this paper tend to err on the low side. In order to obtain estimates which can be employed with some confidence in multivariate analyses, it is necessary to employ evidence from other published studies as well as a certain amount of subjective judgement in arriving at a final recommended set of estimates.

The principal published source of data reporting empirically derived estimates of reliability is the monograph already mentioned by Boruch and Creager (1972). Their estimates were obtained from some 202 students at three institutions in the metropolitan area of Washington, D.C. Identical versions of the 1969 CIRP freshman survey questionnaire were administered to these subjects over an interval of two to three weeks. Wherever possible, estimates derived from, their study (which are almost always higher than estimates derived from the four independent surveys) are recommended. However, since a number of items in the four independent surveys were not included in the Boruch-Creager study, some subjective judgement has been exercised in arriving at final recommended estimates. Three considerations are involved in forming these judgements: similarity in item content and wording, the length of time between surveys, and the extent to which "true" scores would be expected to change over time. This later judgement was predicated in part on a comparison of ACT-SAT reliabilities with ACT-CIRP or SAT-CIRP reliabilities. Since the interval of time between administration of the SAT and ACT was generally smaller than the intervals between either the SAT and CIRP or ACT and CIRP, comparing these various reliabilities provides some clue as to the changes in true scores that would be expected over time. Generally speaking, factual items did not show lower reliabilities when the CIRP was involved (sometimes they were slightly higher because of differences in item wording), whereas estimates involving the CIRP were generally lower when items were assessing factors that would be expected to change with time (major field of study plans, for example).

Table 13 shows each item that was common to the ACT and SAT surveys, together with empirical estimates of reliability and recommended estimates for use in multivariate analyses. The source of these later estimates is given in the last column of the table. Note that ACT-SAT correlations for certain items are so low as to raise serious questions concerning

TABLE 13

Reliability Estimates for Items Retested on PSAT, SAT, ACT, and CIRP Questionnaires

Item	ACT-SAT Correlation	Phi/Phi Max when appropriate	Recommended Reliability	Source
High School Background				
Race				
American Indian	.29	.55	*	
Black	.95	.96	.99	CIRP
Mexican American	.85	.89	.95	CIRP-SAT
Oriental	.93	.95	.95	SAT-ACT
Puerto Rican	.59	.77	.82	ACT-CIRP
White	.85	.92	.95	CIRP 69 - CIRP 70
Sex	1.00	1.00	1.00	PSAT-SAT
Parental Income	.73		.98	Boruch & Creager
Number of Dependents	.88		.95	**
English Best Language	.11	.12	*	
Years of Study by High School Subject				
English	.32		*	
Mathematics	.81		.90	***
Foreign Language	.85		.95	***
Natural Science	.65		.80	***
Social Studies	.70		.85	***
High School Grades	.77		.98	Boruch & Creager
High School Program = College Prep	.52	.55	.85	** ***
High School Type: Public	.91	.99	.98	** ***
High School Class Size Greater than 100	.78	.87	.95	** ***

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*not recommended for use as a comparable item.

**obtained by judgment based on knowledge of wording or format differences in items.

***obtained by judgment based on knowledge of changes over time.

TABLE 13 (con't)

Reliability Estimates for Items Retested on PSAT, SAT, ACT, and CIRP Questionnaires

Item	ACT-SAT Correlation	Phi/Phi Max when appropriate	Recommended Reliability	Source
High School Extracurricular Activities:				
Athletics	.42	.45	*	
Ethnic	.52	.64	.85	**, ***
Journalism	.17	.77	.85	**, ***
Music	.35	.92	.95	**, ***
Pre-Professional/ Departmental	.31	.89	.95	**, ***
Religious	.60	.69	.85	**, ***
Social/Community	.20	.51	*	
Student Government	.76	.84	.90	Boruch & Creager
College Items				
College Extracurricular Activities				
Athletics	.46	.58	.80	**, ***
Ethnic	.46	.52	.80	**, ***
Journalism	.25	.76	.85	**, ***
Music	.40	.73	.85	**, ***
Pre-Professional/ Departmental	.28	.42	*	
Religious	.64	.71	.80	**, ***
Social Community	.26	.38	*	
Student Government	.55	.76	.80	**, ***
Degree Aspirations				
None	.14	.29	*	
Associate	.24	.39	*	
Bachelor's	.68	.80	.85	***
Master's	.56	.60	.78	***
Doctoral or Professional	.77	.82	.88	***
Level of Aspiration	.77		.85	***

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*not recommended for use as a comparable item.
**obtained by judgment based on knowledge of wording or format differences in items.
***obtained by judgment based on knowledge of changes over time.

TABLE 13 (con't)

Reliability Estimates for Items Retested on
PSAT, SAT, ACT, and CIRP Questionnaires

Item	ACT-SAT Correlation	Phi/Phi Max when appropriate	Recommended Reliability	Source
Academic Majors:				
Biology	.50	.54	.80	**, ***
Business	.71	.71	.90	**, ***
Education	.66	.66	.88	**, ***
Engineering	.76	.81	.95	**, ***
Health Sciences	.73	.78	.93	**, ***
Mathematics	.59	.73	.90	**, ***
Social Sciences	.60	.60	.85	**, ***
Physical Sciences	.60	.70	.90	**, ***
Undecided	.34	.34	*	
Planned College Residence:				
Parents	.65	.68	.85	**
Dormitory	.55	.64	.80	**
Fraternity/Sorority	.48	.54	.75	**
Other Campus Housing	.03	.03	*	
Off-Campus Housing	.36	.42	*	
Skill Improvement:				
Reading	.43	.68	.85	**
Writing	.30	.43	*	
Mathematics	.42	.60	.85	**
Study Skills	.43	.57	.85	**
Educational and Vocational Counseling	.29	.33	*	
Personal Counseling	.17	.68	.85	**
Retrospective Demographic CIRP Items				
Age			.96	Boruch & Creager
Father's Education			.99	Boruch & Creager
Mother's Education			.97	Boruch & Creager

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*not recommended for use as a comparable item.
**obtained by judgment based on knowledge of wording or format differences in items.
***obtained by judgment based on knowledge of changes over time.

TABLE 13 (con't)

Reliability Estimates for Items Retested on
PSAT, SAT, ACT, and CIRP Questionnaires

Item	ACT-SAT Correlation	Phi/Phi Max when appropriate	Recommended Reliability	Source
PSAT Verbal			.88	Technical Manual
PSAT Mathematic			.89	Technical Manual
SAT Verbal			.90	Technical Manual
SAT Mathematic			.88	Technical Manual
ACT English			.90	Technical Manual
ACT Natural Science			.84	Technical Manual
ACT Social Studies			.88	Technical Manual
ACT Mathematic			.88	Technical Manual

*not recommended for use as a comparable item.
**obtained by judgment based on knowledge of wording or format differences in items.
***obtained by judgment based on knowledge of changes over time.

the comparability of the items. These items, which are starred in Table 13, are not recommended for use in multivariate analyses.

Readers should be cautioned that some of the recommended estimates may be inappropriate, and that only by empirical analyses of data can the usefulness of the estimates be established. An obvious clue that some estimates may be too low would be a case where a matrix of adjusted intercorrelations cannot be inverted. For any studies of highly critical policy issues involving these independent variables, it is recommended that analyses be performed with and without adjustments for unreliability.

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APPENDIX

Recodes for Comparable Items and Conversions for Test Scores and Grades

PARENTAL INCOME

SAT

28. What is the approximate income of your parents before taxes? Include taxable and nontaxable income from all sources.

(A) Less than $3,000 a year (about $60 a week or less)
(B) Between $3,000 and $5,999 a year (from $60 to $119 a week)
(C) Between $6,000 and $7,499 a year (from $120 to $149 a week)
(D) Between $7,500 and $8,999 a year (from $150 to $179 a week)
(E) Between $9,000 and $10,499 a year (from $180 to $209 a week)
(F) Between $10,500 and $11,999 a year (from $210 to $239 a week)
(G) Between $12,000 and $13,499 a year (from $240 to $269 a week)
(H) Between $13,500 and $14,999 a year (from $270 to $299 a week)
(I) Between $15,000 and $16,499 a year (from $300 to $329 a week)
(J) Between $16,500 and $17,999 a year (from $330 to $359 a week)
(K) Between $18,000 and $19,999 a year (from $360 to $399 a week)
(L) Between $20,000 and $21,999 a year (from $400 to $439 a week)
(M) Between $22,000 and $23,999 a year (from $440 to $479 a week)
(N) Between $24,000 and $25,999 a year (from $480 to $519 a week)
(O) Between $26,000 and $27,999 a year (from $520 to $559 a week)
(P) Between $28,000 and $30,000 a year (from $560 to $600 a week)
(Q) More than $30,000 a year ($600 or more a week)

SAT Value	ACT Value	RECODE Value
A	0	1 = Less than $3,000
B	1	2 = $3,000 - 5,999
C	2	3 = $6,000 - 7,499
D	3	4 = $7,500 - 8,999
E, F	4	5 = $9,000 - 11,999
G, H	5	6 = $12,000 - 14,999
I, J, K	6	7 = $15,000 - 19,999
L, M, N O, P, Q	7	8 = $20,000 or more
	8	0 = missing data

ACT

59. To plan financial aid programs for entering students, colleges need to know the financial background of their students. Please estimate as accurately as possible your family's income. (Indicate total income before taxes.)

Less than $3,000	0
$3,000 to $5,999	1
$6,000 to $7,499	2
$7,500 to $8,999	3
$9,000 to $11,999	4
$12,000 to $14,999	5
$15,000 to $19,999	6
$20,000 and over	7
I consider this information confidential	8

RACE

SAT

24. How do you describe yourself?
   - (A) American Indian
   - (B) Black or Afro-American or Negro
   - (C) Mexican-American or Chicano
   - (D) Oriental or Asian-American
   - (E) Puerto Rican
   - (F) White or Caucasian
   - (G) Other

ACT

65. Colleges often provide special educational programs and opportunities for students from particular racial or ethnic backgrounds. ACT releases this information only to those institutions that request it. If your background is listed below and you wish to identify yourself, please respond to this item. You are not required to provide this information.

Afro-American/Black	1
American Indian/Native American/ Aleutian (Eskimo)	2
Caucasian American/White	3
Mexican American or Chicano	4
Oriental American	5
Puerto Rican or Spanish-Speaking American	6
Other	7
I prefer not to respond	8

SAT Value	ACT Value	RECODE Value
F	3	1 = White
B	1	2 = Black
A	2	3 = American Indian
D	5	4 = Oriental
C	4	5 = Mexican-American
E	6	6 = Puerto Rican-American
G	7	7 = Other
	8	0 = missing data

ENGLISH BEST LANGUAGE

SAT

25. Is English your best language?

(Y) Yes (N) No

Questions 26 through 28 ask about your parents' financial situation and should be answered in consultation with your parents. Your individual responses will not be reported to anyone. Only summary responses for groups of students will be reported to colleges and high schools.

ACT

64. Is English the language most frequently spoken in your home?

Yes	Y
No	N
I prefer not to respond	0

SAT	ACT	RECODE
Y	Y	2 = Yes
N	N	1 = No
	0	0 = missing data

OTHER DEPENDENTS IN FAMILY

SAT

26. How many of your brothers or sisters are dependent on your parents or legal guardian for financial support?

(A) None (B) One (C) Two (D) Three
(E) Four (F) Five (G) Six or more

ACT

61. How many brothers and sisters under 21 years of age do you have?

None	0
One	1
Two	2
Three	3
Four	4
Five	5
Six	6
Seven	7
Eight	8
Nine or more	9

SAT	ACT	RECODE
A	0	1 = none
B	1	2 = one
C	2	3 = two
D	3	4 = three
E	4	5 = four
F	5	6 = five
G	6, 7, 8, 9	7 = six or more

HIGH SCHOOL GRADES

The SAT questionnaire did not contain an overall high school GPA item, instead it asked the student to report the most recent grades in six areas. A GPA was calculated by assigning percentage scores to each grade category as follows: A=95, B=85, C=75, D=65, F=55. The scores were then summed weighting English by 3, Math by 2, and all others by 1. The sum was divided by the number of grades reported, resulting in a mean calculated GPA in percentage from.

The ACT high school GPA was converted to SAT percentage equivalents by equipercentile method (N=14000). Questionnaire items and recoded values are shown below.

SAT

In answering questions 6 through 11, please indicate the latest year-end or semester-end marks that you received in each subject taken since you began the ninth grade.

After blackening the letter corresponding to your mark in a subject, blacken the letter H if the mark was received in an honors, advanced, or accelerated course.

(A) Excellent (usually 90-100)
(B) Good (usually 80-89)
(C) Fair (usually 70-79)
(D) Passing (usually 60-69)
(F) Failing (usually 59 or below)
(G) Only "pass-fail" marks were assigned and I received a pass.
(H) The mark reported was in an honors, advanced, or accelerated course.

6. English
7. Mathematics
8. Foreign Languages
9. Biological Sciences
10. Physical Sciences
11. Social Studies

ACT

82. My overall high school average is (was)

D- to D (0.5-0.9)	1
D to C- (1.0-1.4)	2
C- to C (1.5-1.9)	3
C to B- (2.0-2.4)	4
B- to B (2.5-2.9)	5
B to B+ (3.0-3.4)	6
A- to A (3.5-4.0)	7

SAT calculated percentage described above

ACT converted to SAT calculated percentage as follows:

ACT Code ⟶	SAT Conversion
7	93
6	87
5	83
4	78
3	74
2	71
1	68

Correlation between SAT GPA and converted ACT GPA is .77 (N=14,000).

TYPE OF HIGH SCHOOL

SAT

2. What kind of high school are you attending?

(A) Public (B) Private

ACT

78. The high school from which I will (did) graduate can be best described as a

public high school 1
Catholic high school 2
private, independent school 3
private, denominational school 4
military school 5
other 6

SAT Value	ACT Value	RECODE Value
A	1	1 = Public
B	2, 3, 4, 5, 6	2 = Private or other

TYPE OF HIGH SCHOOL PROGRAM

SAT

3. Which of the following best describes your present high school program?

(A) Academic or college preparatory

(B) General

(C) Career-oriented (business, vocational, industrial arts)

(D) Other

ACT

83. I would describe my high school curriculum or program as

business or commercial 1
vocational-occupational 2
college preparatory 3
other or general 4

SAT Value	ACT Value	RECODE Value
A	3	1 = College preparatory
C	1, 2	2 = Business or vocational
B, D	4	3 = General or other

HIGH SCHOOL CLASS SIZE

SAT

4. About how many students are there in your high school class?

(A) Fewer than 100 (B) 100-249 (C) 250-499
(D) 500-749 (E) 750 or more

ACT

79. The number of students in my high school graduating class is (was)

fewer than 25	1
25-99	2
100-199	3
200-399	4
400-599	5
600-899	6
900 or more	7

SAT Value	ACT Value	RECODE Value
A	1, 2	1 = Fewer than 100
B, C, D, E	3, 4, 5, 6, 7	2 = 100 or more

HIGH SCHOOL EXTRACURRICULAR ACTIVITIES

SAT

Questions 32 and 33 concern your interests in extracurricular activities in high school and your plans to participate in college.

32 Blacken the letter for each activity in which you participated while in high school.

- **(A) Athletics – interscholastic, intramural, or community**
- **(B) Ethnic or racial activities or organizations**
- **(C) Journalism, debating, or dramatic activities**
- **(D) Music – band, chorus, or orchestra**
- **(E) Preprofessional or departmental clubs – for example, Future Teachers of America, American Society of Civil Engineers**
- **(F) Religious activities or organizations**
- **(G) Social clubs and community organizations**
- **(H) Student government**

33. Blacken the letter for each activity, using the listing in question 32, to indicate activities in which you plan to participate while in college.

ACT

HIGH SCHOOL EXTRACURRICULAR ACTIVITIES

Items 99-114 list student extracurricular activities. Please answer Y or N to each item on the list.

Yes, I participated in this activity .... Y
No, I did not participate in this activity.................... N

99. Instrumental music (band, orchestra)
100. Vocal music
101. Student government
102. Publications (newspaper, yearbook, literary magazine)
103. Debate
104. Departmental clubs (science club, math club, etc.)
105. Dramatics, theater
106. Religious organizations
107. Racial or ethnic organizations
108. Intramural athletics
109. Varsity athletics
110. Political organizations
111. Radio-TV
112. Fraternity, sorority, or other social clubs
113. Special interest groups (ski club, sailing club, judo club, card section, drill teams, etc.)
114. School or community service organizations

SAT	ACT	Dummy Variable
A	108, 109	athletics
B	107	ethnic or racial
C	102, 103, 105	journalism, debate, drama
D	99, 100	music
E	104	departmental or pre-professional
F	106	religious
G	112, 113, 114	social clubs and community organizations
H	101	student government

YEARS OF STUDY BY SUBJECT

SAT

Questions 12 through 17 ask you to blacken the letter corresponding to the total years of study you expect to complete in certain subjects. Include in the total only the courses you have taken since beginning the ninth grade and those you expect to complete before graduation from high school. If you have completed less than a full year in a subject, answer as if you have completed a full year. Do not count a repeated year of the same course as an additional year of study.

(A) I did not take any courses in the subject.
(B) One year or the equivalent
(C) Two years or the equivalent
(D) Three years or the equivalent
(E) Four years or the equivalent
(F) More than four years or the equivalent

12. English
13. Mathematics
14. Foreign Languages
15. Biological Sciences
16. Physical Sciences
17. Social Studies

ACT

Years Certain Subjects Studied
(Grades 9-12)

Items 84-93 concern the number of years you will have studied certain subjects by the time you graduate (or have studied, if you have graduated) from high school. Use the responses below to answer *all* the items in this group.

Half-year	1
One year	2
One and a half years	3
Two years	4
Two and a half years	5
Three years	6
Three and a half years	7
Four years or more	8
I did not take any courses in the subject	9

84. English
85. Mathematics
86. Social studies (history, civics, geography, economics)
87. Natural sciences (biology, chemistry, physics)
88. Foreign language (Spanish)
89. Foreign language (German)
90. Foreign language (French)
91. Foreign language (other)
92. Business or commercial
93. Vocational-occupational

SAT Item	ACT Item	Created Variable	Years of Study SAT	Years of Study ACT	RECODE
12	84	English	A	9	1 = none
13	85	Mathematics	B	1, 2	2 = one year or less
14	88, 89, 90, 91	Foreign language	C	3, 4	3 = up to two years
			D	5, 6	4 = up to three years
15, 16	87	Natural sciences	E, F,	7, 8	5 = more than three years

HIGHEST DEGREE PLANNED

SAT

23. What is the highest level of education you plan to complete beyond high school?

(A) A two-year specialized training program (for example, electronics, laboratory technician)

(B) A two-year liberal arts degree (Associate of Arts)

(C) Bachelor's degree (B.A. or B.S.)

(D) Master's degree (M.A. or M.S.)

(E) Doctor's degree or other professional degree (such as Ph.D. or M.D.)

(F) Other or undecided

ACT

16. What is the highest level of education you expect to complete?

Vocational or technical program (less than 2 years)	1
Two-year college degree	2
Bachelor's degree	3
One or 2 years of graduate study (MA, MBA, etc.)	4
Professional level degree (PhD, MD, LLB, or JD, etc.)	5
Other	6

SAT Value	ACT Value	RECODE Value
A	1	1 = Vocational Program
B	2	2 = Associate (two-year)
C	3	3 = Bachelor
D	4	4 = Master
E	5	5 = Doctoral or Professional
F	6	6 = Other or undecided

REMEDIAL HELP

SAT

31. You may want to receive help outside regular course work from the college you plan to attend. If so, blacken the letter for each area in which you need help.

(A) Counseling about educational and vocational plans and opportunities
(B) Improving mathematical ability
(C) Finding part-time work
(D) Counseling about personal problems
(E) Increasing reading ability
(F) Developing good study habits
(G) Improving writing ability

ACT

Many colleges offer special assistance for the individual development of students. You may wish to seek such assistance. Please respond Y or N to *each* item.

Yes, applies to me ....Y
No, does not apply to me ....N

19. I need help deciding on my educational and vocational plans.
20. I need help in expressing my ideas in writing.
21. I need help in improving my reading speed and comprehension.
22. I need help in improving my study skills.
23. I need help in improving my mathematical skills.
24. I would like personal counseling.

SAT Item	ACT Item	Created Variables
A	19	Educational and vocational plans
G	20	Writing
E	21	Reading
F	22	Study skills
B	23	Mathematics
D	24	Personal counseling

RESIDENT OR COMMUTER STATUS

SAT

30. Where do you prefer to live during your first two years in college?

- (A) At home
- (B) Single-sex dorm
- (C) Coed dorm
- (D) Fraternity or sorority house
- (E) On-campus apartment
- (F) Off-campus apartment

ACT

4. Upon entering college, I plan to live in

residence hall	1
off-campus room or apartment	2
parents' or relative's home	3
married student housing	4
fraternity or sorority	5

SAT Value	ACT Value	RECODE Value
A	3	1 = Parent's home
B, C	1	2 = Residence hall
D	5	3 = Fraternity or sorority
E	4	4 = Other campus housing
F	2	5 = Off-campus apartment

COLLEGE EXTRACURRICULAR ACTIVITIES

SAT

33. Blacken the letter for each activity, using the listing in question 32, to indicate activities in which you plan to participate while in college.

(A) Athletics – interscholastic, intramural, or community
(B) Ethnic or racial activities or organizations
(C) Journalism, debating, or dramatic activities
(D) Music – band, chorus, or orchestra
(E) Preprofessional or departmental clubs – for example, Future Teachers of America, American Society of Civil Engineers
(F) Religious activities or organizations
(G) Social clubs and community organizations
(H) Student government

ACT

The next questions (40-55) list student activities you may be interested in at college. Please respond Y or N to *each* item.

Yes, I do plan to participate .... Y
No, I do not plan to participate .... N

40. Instrumental music
41. Vocal music
42. Student government
43. Publications (newspaper, yearbook, literary magazine)
44. Debate
45. Departmental clubs
46. Dramatics, theater
47. Religious organizations
48. Racial or ethnic organizations
49. Intramural athletics
50. Varsity athletics
51. Political organizations
52. Radio-TV
53. Fraternity or sorority
54. Special-interest groups (ski club, sailing club, judo club, card section, drill teams, etc.)
55. Campus or community service organizations

SAT	ACT	Dummy Variable
A	49, 50	athletics
B	48	ethnic or racial
C	43, 44, 46	journalism, debate, drama
D	40, 41	music
E	45	departmental or pre-professional
F	47	religious
G	53, 54, 55	social clubs and community organizations
H	42	student government

RECODED MAJOR FIELDS OF STUDY
FOR ACT AND SAT

001 AGRICULTURE
002 agriculture economics
003 agronomy, field crops
004 animal science
005 fish and game, wildlife management
006 food science
007 horticulture

008 ARCHITECTURE

009 ART
010 art history
011 commercial art
012 graphic arts
013 interior decorating
014 photography

015 BIOLOGICAL SCIENCES
016 biochemistry
017 biology
018 botany
019 ecology
020 zoology

021 BUSINESS AND COMMERCE
022 accounting
023 advertising
024 business management and administration
025 finance and banking
026 hotel and restaurant administration
027 industrial management
028 real estate
029 sales and retailing
030 secretarial studies
031 transportation and commerce

032 COMMUNICATIONS
033 journalism
034 radio and television

035 COMPUTER SCIENCES AND SYSTEMS ANALYSIS
036 computer science
037 data processing
038 systems analysis

039 EDUCATION
040 agricultural education
041 art education
042 business education
043 special education
044 elementary education
045 health education
046 industrial arts education
047 music education
048 physical education
049 secondary education
050 speech and hearing

051 ENGINEERING
052 aerospace and aeronautical engineering
053 agricultural engineering
054 air-conditioning engineering
055 architectural engineering
056 chemical engineering
057 civil engineering
058 drafting
059 electrical engineering
060 industrial and management engineering
061 mechanical engineering
062 metallurgical engineering
063 mining and mineral engineering
064 naval architecture and marine enginee
065 nuclear technology
066 petroleum engineering

067 ENGLISH AND LITERATURE
068 creative writing
069 literature
070 speech

071 ETHNIC STUDIES

072 FOREIGN LANGUAGES
073 Classical languages
074 French
075 German
076 Italian
077 linguistics
078 Russian
079 Spanish

080 FORESTRY AND CONSERVATION

081 GEOGRAPHY

082 HEALTH AND MEDICAL PROFESSIONS
083 dental assisting
084 dental hygiene
085 dental technology
086 health and safety
087 medical assisting
088 medical technology
089 nursing-practical
090 nursing-registered
091 occupational therapy
092 optometry
093 pharmacy
094 physical therapy

095 predentistry
096 premedicine
097 radiology and x-ray technology

098 HISTORY AND CULTURES

099 HOME ECONOMICS
100 clothing and textiles
101 family relations
102 food and nutrition
103 infant and child care
104 institution management

105 MATHEMATICS
106 statistics

107 MILITARY SCIENCE

108 MUSIC
109 music history

110 PHILOSOPHY
111 religion

112 PHYSICAL SCIENCES
113 astronomy
114 chemistry
115 earth science
116 geology
117 oceanography
118 physics

119 PSYCHOLOGY

120 SOCIAL SCIENCES
121 anthropology
122 economics
123 international relations
124 police science
125 political science
126 public administration
127 social work
128 sociology

129 DRAMATIC ARTS
130 dance

131 TRADE AND VOCATIONAL
132 automotive maintenance
133 aviation maintenance
134 carpentry

135 UNDECIDED AND OTHER

COLLAPSED RECODES

01 Agriculture
02 Architecture
03 Art
04 Biological Sciences
05 Business and Commerce
06 Communications
07 Computer Science and Systems Analysis
08 Education
09 Engineering
10 English and Literature
11 Ethnic Studies
12 Foreign Languages
13 Forestry and Conservation
14 Geography
15 Health and Medical Professions
16 History and Cultures
17 Home Economics
18 Mathematics
19 Military Science
20 Music
21 Philosophy
22 Physical Sciences
23 Psychology
24 Social Sciences
25 Theater Arts
26 Trade and Vocational
27 Undecided and Other

ACT Sum Eng & Nat Sci & Soc Sci	SAT Verbal Equivalent
29	260
28	260
27	250
26	250
25	240
24	230
23	230
22	220
21	220
20	210
19	210
18	210
17	210
16	200
15	200
14	200
13	200
12	200
11	200
1-10	200

SAT math score (range 200-800) where available, otherwise ACT equivalent obtained by an equipercentile conversion of the ACT Mathematical subtest score (range 1-36) to SAT. Correlation between SAT-M and converted ACT-M is .85 (N = 14,000). Conversion table shown below.

ACT Math Score	SAT Math Equiv.
36	780
35	750
34	730
33	710
32	700
31	680
30	660
29	640
28	610
27	590
26	560
25	530
24	510
23	500
22	480
21	470
20	460
19	450
18	440
17	430
16	410
15	390
14	380
13	370
12	360
11	350
10	340
9	330
8	330
7	320
6	300
5	290
4	280
3	270
2	260
1	240

APPTITUDE TEST SCORE CONVERSIONS

SAT verbal score (range 200-800) where available, otherwise ACT equivalent. The ACT equivalent was obtained by summing three ACT subtests (English, natural sciences, social sciences) and converting to SAT equivalent by equipercentile method (N=14865). The sum of the three (range 3-108) ACT subtests was used (rather than simply the ACT English subtest) because it resulted in a better correlation with the SAT verbal score (r=.82 vs. .69). If a record had one or more of the ACT subtests missing, the entire record was dropped from the file. Conversion table shown below.

ACT Sum Eng & Nat Sci & Soc Sci	SAT Verbal Equivalent	ACT Sum Eng & Nat Sci & Soc Sci	SAT Verbal Equivalent
108	800	69	480
107	800	68	470
106	800	67	460
105	800	66	460
104	800	65	450
103	800	64	440
102	800	63	440
101	790	62	440
100	770	61	430
99	760	60	430
98	750	59	420
97	740	58	420
96	730	57	410
95	720	56	410
94	710	55	400
93	700	54	400
92	690	53	390
91	680	52	390
90	670	51	380
89	660	50	380
88	640	49	370
87	630	48	370
86	620	47	360
85	610	46	360
84	600	45	350
83	590	44	350
82	580	43	340
81	570	42	340
80	560	41	330
79	550	39	320
78	540	38	310
77	540	37	310
76	530	36	310
75	520	35	300
74	510	34	300
73	510	33	290
72	500	32	280
71	490	31	280
70	480	30	270

Appendix C

SISFAP Study A

Documentation

11th-12th Grade

Longitudinal File

Introduction

This longitudinal file was developed as part of a major national study of the impact of financial aid programs conducted by the Higher Education Research Institute under contract with the U.S. Office of Education, Office of Planning, Budgeting, and Evaluation. The longitudinal data cover two points in time: early in the junior year in secondary school (October, 1973) and the middle of the senior year in secondary school (academic year 1974-1975). Eleventh grade data were obtained from the Preliminary Scholastic Aptitude Test (PSAT) of the College Entrance Examination Board administered by the Educational Testing Service. This testing involved a preliminary form of the Scholastic Aptitude Test (SAT) and a brief personal data questionnaire which inquires about the student's first and second college preferences. Twelfth grade data were obtained from two sources: the Admissions Testing Program (ATP) of the College Entrance Examination Board (conducted by the Educational Testing Service), and the College Admissions Program of the American College Testing Program (ACT). Both the ATP and ACT assessments involve a college admissions test and a personal data questionnaire which includes up to six college preferences. The SAT is the college admissions test administered as part of the ATP. The 12th grade data from the College Entrance Examination Board is referenced as SAT, rather than ATP, to avoid confusion with the acronym ACT.*

The data file is arranged in four parts: (1) PSAT 11th grade data are in columns 1-171; (2) 12th grade data from the SAT or ACT are in columns 172-678, with population weights in columns 679-682; (3) data describing the higher education environment of the student's home zip code are contained in columns 683-711; (4) data primarily describing financial aid expenditures in the student's home state are in columns 712-779. The length of this file has been increased substantially by including in each student's record 62 columns of descriptive data for each of eight college choices (two from the 11th grade and six from the 12th grade).

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*For technical details of the procedures used to match students across the PSAT, SAT, and ACT, see A.W. Astin, Financial Aid and College Choice (Higher Education Research Institute, 1977).

Twelfth grade data from the SAT and ACT, including admissions test scores as well as background items from the questionnaires administered with the tests, have been converted to a common scale. Details of these conversion procedures are contained in a series of notes at the end of the documentation (pp. 29-69). Unless specified otherwise, missing data are indicated by blanks.

The file contains a number of blank fields which should be ignored. They have been retained in order to maintain comparability of data fields across different versions of this file as it was developed.

Overall design of the file was under the direction of Alexander W. Astin. James W. Henson was responsible for coordinating the major technical aspects of file development. C.E. Christion carried responsibility for converting ACT and ATP data to a common form. Gerald T. Richardson and Paul E. Hemond did most of the systems design and programming.

TAPE-FILE INFORMATION SHEET

DESCRIPTIVE FILE NAME National Longitudinal Data: Eleventh-Twelfth Grade

CREATED BY J. Henson, P. Hemond, G. Richardson DATE CREATED 2-22-78

FILE#/LABEL (1,sl,,) DSNAME 'USOE PSAT-SAT 75'

RECORD LENGTH 780 BLOCK LENGTH 19500

NUMBER OF TAPES 4 TAPE NUMBER(S) AA1001,AA1002,AA1003,AA1004

TRACKS/DENSITY 9/6250BPI SORTED BY not sorted

UNIT OF ANALYSIS individual NUMBER OF CASES 724,460

FILE LOCATION

COMMENTS

HIGHER EDUCATION RESEARCH INSTITUTE
924 WESTWOOD BLVD., SUITE 850
LOS ANGELES, CALIFORNIA 90024

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Higher Education Research Institute
924 Westwood Boulevard, Suite 850
Los Angeles, California 90024

TAPE LAYOUT
HERI-SISFAP 11th grade-12 grade fil
Page 1 of 15
PSAT Data

CHARACTER POSITION		
1 2 3 4 5 6		Blank
7	US citizen	2=yes, 1=no
8 9	Year planning to complete high school	73=1973, 74=1974, 75=1975, 98=other 99=not graduating or not planning to attend college
10 11	Year planning to enter college	73=1973, 74=1974, 75=1975, 98=other 99=not graduation or not planning to attend college
12	High school GPA	7=A; 6=A- or B+; 5=B; 4=B-; 3=C; 2=C- or D=; 1=0
13 14	College major choice code	(see note 1)
15 16	Career choice code	(see note 2)
17	NSSFNS school indicator	2=yes, st. wishes to be considered 1=no (see Note 3C)
18 19 20 21		
22 23	First choice college type	1=public 4-yr; 2=private 4-yr; 3=public 2-yr; 4=private 2-yr; 5=other; 6=undecided
24 25 26		
27	Second choice college type	same as column 22
28 29	Verbal converted score	20-80 (no missing data)
30 31	Verbal percentile	1-99
32 33	Math converted score	20-80 (no missing data)
34 35	Math percentile	1-99
36	Plan to complete high school in three years or less	2=yes; 1=no
37	Number of college codes in PSAT	0-2 (zero is a valid number - no missing data)
38 39 40 41 42 43		BEGIN DATA ON FIRST CHOICE PSAT COLLEGE See note 26A Blank
44 45 46 47		Blank
48 49	State 58 categories	see pages 16-17
50	Region 9 categories	see page 17

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TAPE LAYOUT
HERI-SISFAP 11th grade-12th grade
Page 2 of 15
PSAT Data

CHARACTER POSITION			
51 52 53 54 55		Blank	
56	Race of Institution	1=white; 2=black	
57	Control	1-public; 2=private	
58	Type	1=univ; 2=other 4-yr; 3=other 2-yr; 4=4-yr. branch of multiuniversity; 5=2-year branch of multiuniversity; 6=2-year branch of multi-four-year institution	
59 60	17 Category (See note 3b & Institution Code page 18)		
61	Prestige	1-9 (see note 4 and page 18)	
62 63 64	Selectivity divided by ten rounded to three digits: e.g., 1459=150)	(Mean institutional SAT V-M or equivalent) (see note 5)	
65	Selectivity code	1-9 (see note 6)	see page 19 for codes
66	Enrollment code	1-9 (see note 7)	
67	Percent women enrolled code	1-9 (see note 8)	
68	Percent graduate students enrolled code	1-9 (see note 9)	
69	Education and General expenditures per student code	(see note 10)	see page 20 for cod
70	Library expenditures per student code	1-9 (see note 11)	
71	Value of assets per student code	1-9 (see note 12)	
72	Student/faculty ratio code	1-9 (see note 13)	
73 74 75	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136) (see note 14)		
76	Tuition and fees code	1-9 (see note 15 and page 21)	
77 78	Percent BAs in biological sciences	(agriculture and bio sci) (see note 16)	
79 80	Percent BAs in vocational areas	(architecture, communications, health prof., home economics, library sciences (math and physical science) (see note 16)	
81 82	Percent BAs in social sciences	(area studies, psychology, social science, law) (see note 16)	
83 84	Percent BAs in physical sciences	(math and physical science) (see note 16)	
85 86	Percent BAs in humanities	(fine arts, foreign languages, letters, theology) (see note 16)	
87 88	Percent BAs in engineering	(computer science, engineering) (see note 16)	
89 90	Percent BAs in business	(business only) (see note 16)	
91 92	Percent BAs in education	(education only) (see note 16)	
93	Highest degree offered 1-7	See page 21)	
94 95	Affiliation	(see note 17 and page 22)	
96 97 98 99	Distance in miles from home to this institution 1=zero or one mile 0=missing data (if zip code not valid) (see note 18)	END DATA ON PSAT 1ST CHOICE COLLEGE	
100 101 102 103 104 105		BEGIN DATA ON 2ND CHOICE PSAT COLLEGE Blank	

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TAPE LAYOUT
HERI-SISFAP 11th grade-12th grade file
Page 3 of 15
PSAT Data

CHARACTER POSITION			
106 107 108 109	Blank		
110 111	State	58 categories	see page 16
112	Region	9 categories	see page 17
113 114 115 116 117	Blank		
118	Race of Institution	1=white; 2=black	
119	Control	1-public; 2=private	
120	Type	1=univ; 2=other 4-yr; 3=other 2-yr; 4=4-yr. branch of multiuniversity; 5=2-year branch of multiuniversity; 6=2-year branch of multi-four-year institution	
121 122	17 Category (See note 3b & Institution Code page 18)		
123	Prestige	1-9 (see note 4 and page 18)	
124 125 126	Selectivity divided by ten rounded to three digits:	(Mean institutional SAT V+M or equivalent e.g., 1459=150) (see note 5)	
127	Selectivity code	1-9 (see note 6)	see page 19 for codes
128	Enrollment code	1-9 (see note 7)	
129	Percent women enrolled code	1-9 (see note 8)	
130	Percent graduate students enrolled code	1-9 (see note 9)	
131	Education and General expenditures per student code	(see note 10)	see page 20 for co
132	Library expenditures per student code	1-9 (see note 11)	
133	Value of assets per student code	1-9 (see note 12)	
134	Student/faculty ratio code	1-9 (see note 13)	
135 136 137	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136) (see note 14)		
138	Tuition and fees code	1-9 (see note 15 and page 21)	
139 140	Percent BAs in biological sciences	(agriculture and bio sci) (see note 16)	
141 142	Percent BAs in vocational areas	(architecture, communications, health prof., home economics, library sciences (math and physical science) (see note 16)	
143 144	Percent BAs in social sciences	(area studies, psychology, social science, law) (see note 16)	
145 146	Percent BAs in physical sciences	(math and physical science) (see note 16)	
147 148	Percent BAs in humanities	(fine arts, foreign languages, letters, theology) (see note 16)	
149 150	Percent BAs in engineering	(computer science, engineering) (see note 16)	
151 152	Percent BAs in business	(business only) (see note 16)	
153 154	Percent BAs in education	(education only) (see note 16)	
155	Highest degree offered 1-7	See page 21)	

CHARACTER
POSITION

156 Affiliation (see note 17 and page 22)
157

158 Distance in miles from home to this institution
159 1=zero or one mile
160 0=missing data (if zip code not valid) (see note 18)
161

162 Mean selectivity of institutions in PSAT record divided by 100 4-16
163 (see note 19)

164 Mean coded enrollment of institution in PSAT record (F2.1) (see note 20)
165

166 Mean tuition and fees of institution in PSAT record divided by 100 (see note 21)
167

168
169
170 Mean distance from home to college of institutions in PSAT record (see note 22)
171

END PSAT DATA

BEGIN 12TH GRADE COMPARABLE DATA FROM SAT AND ACT

172 Sex 1=male, 2=female

173
174
175
176
177
178
179
180
Blank

181 Educational level at time 12th grade test taken
1=jr., 2=sr., 3=col. st., 4=other (see note 24)

182 Home state code (see page 24)
183

184
185
186
187
188
Blank

189 Number of college choices in 12th grade record; coded 0-6 (see note 26) zero is a valid number-no missing data

BEGIN COLLEGE CHOICE DATA

College Choice #1, institutional data
(note 26A)

190
191
192
193
194
195
Blank

196
197
198
199
Blank

200 State 58 categories see page 16
201

202 Region 9 categories see page 17

203
204
205
206
207
Blank

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TAPE LAYOUT
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ATP-ACT DATA

CHARACTER
POSITION

208	Race of Institution	1=white; 2=black	
209	Control	1-public; 2=private	
210 211 212	Type 17 Category (See note 3b & Institution Code page 18)	1=univ; 2=other 4-yr; 3=other 2-yr; 4=4-yr branch o multiuniversity; 5=2-year branch of multiuniversity; 6=2-year branch of multi-four-year institution	
213	Prestige	1-9 (see note 4 and page 18)	
214 215 216	Selectivity divided by ten (Mean institutional SAT V+M or equivalent rounded to three digits: e.g., 1459=150) (see note 5)		
217	Selectivity code	1-9 (see note 6)	see page 19 for cod
218	Enrollment code	1-9 (see note 7)	
219	Percent women enrolled code	1-9 (see note 8)	
220	Percent graduate students enrolled code	1-9 (see note 9)	
221	Education and General expenditures per student code	(see note 10)	see page 20 for
222	Library expenditures per student code	1-9 (see note 11)	
223	Value of assets per student code	1-9 (see note 12)	
224	Student/faculty ratio code	1-9 (see note 13)	
225 226 227	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136) (see note 14)		
228	Tuition and fees code	1-9 (see note 15 and page 21)	
229 230	Percent BAs in biological sciences (agriculture and bio sci) (see note 16)		
231 232	Percent BAs in vocational areas (architecture, communications, health prof., home economics, library sciences (math and physical science) (see note 16)		
233 234	Percent BAs in social sciences (area studies, psychology, social science, law) (see note 16)		
235 236	Percent BAs in physical sciences (math and physical science) (see note 16)		
237 238	Percent BAs in humanities (fine arts, foreign languages, letters, theology) (see note 16)		
239 240	Percent BAs in engineering (computer science, engineering) (see note 16)		
241 242	Percent BAs in business (business only) (see note 16)		
243 244	Percent BAs in education (education only) (see note 16)		
245	Highest degree offered 1-7	See page 21)	
246 247	Affiliation	(see note 17 and page 22)	
248 249 250 251	Distance in miles from home to this institution 1=zero or one mile 0=missing data (if zip code not valid) (see note 18)		
252 253 254 255 256 257	Blank	College choice #2, institutional data (note 26A)	

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TAPE LAYOUT
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ATP-ACT DATA

CHARACTER POSITION

258 259 260 261	Blank		
262 263	State	58 categories	see page 16
264	Region	9 categories	see page 17
265 266 267 268 269	Blank		
270	Race of Institution	1=white; 2=black	
271	Control	1-public; 2=private	
272	Type	1=univ; 2=other 4-yr; 3=other 2-yr; 4=4-yr. branch of multiuniversity; 5=2-year branch of multiuniversity; 6=2-year branch of multi-four-year institution	
273 274	17 Category (See note 3b & Institution Code page 18)		
275	Prestige	1-9 (see note 4 and page 18)	
276 277 278	Selectivity divided by ten rounded to three digits: e.g., 1459=150) (see note 5)	(Mean institutional SAT V+M or equivalent	
279	Selectivity code	1-9 (see note 6)	see page 19 for codes
280	Enrollment code	1-9 (see note 7)	
281	Percent women enrolled code	1-9 (see note 8)	
282	Percent graduate students enrolled code	1-9 (see note 9)	
283	Education and General expenditures per student code	(see note 10)	see page 20 for co
284	Library expenditures per student code	1-9 (see note 11)	
285	Value of assets per student code	1-9 (see note 12)	
286	Student/faculty ratio code	1-9 (see note 13)	
287 288 289	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136) (see note 14)		
290	Tuition and fees code	1-9 (see note 15 and page 21)	
291 292	Percent BAs in biological sciences (agriculture and bio sci) (see note 16)		
293 294	Percent BAs in vocational areas (architecture, communications, health prof., home economics, library sciences (math and physical science) (see note 16)		
295 296	Percent BAs in social sciences (area studies, psychology, social science, law) (see note 16)		
297 298	Percent BAs in physical sciences (math and physical science) (see note 16)		
299 300	Percent BAs in humanities (fine arts, foreign languages, letters, theology) (see note 16)		
301 302	Percent BAs in engineering (computer science, engineering) (see note 16)		
303 304	Percent BAs in business (business only) (see note 16)		
305 306	Percent BAs in education (education only) (see note 16)		

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TAPE LAYOUT
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Page 7 of 15
ATP-ACT DATA

CHARACTER POSITION			
307	Highest degree offered 1-7	(See page 21)	
308	Affiliation	(see note 17 and page 22)	
309			
310	Distance in miles from home to this institution		
311	1=zero or one mile		
312	0=missing data (if zip code not valid)	(see note 18)	
313			
314			College choice #3, institutional data (note 26A)
315			
316			
317		Blank	
318			
319			
320			
321		Blank	
322			
323			
324	State	58 categories see page 16	
325			
326	Region	9 categories see page 17	
327			
328			
329		Blank	
330			
331			
332	Race of Institution	1=white; 2=black	
333	Control	1-public; 2=private	
334	Type	1=univ; 2=other 4-yr; 3=other 2-yr;4=4-yr. branch of	
335	17 Category (See note 3b &	multiuniversity; 5=2-year branch of multiuniversity;	
336	Institution Code page 18)	6=2-year branch of multi-four-year institution	
337	Prestige	1-9 (see note 4 and page 18)	
338	Selectivity divided by ten	(Mean institutional SAT V+M or equivalent	
339	rounded to three digits: e.g., 1459=150)	(see note 5)	
340			
341	Selectivity code	1-9 (see note 6)	see page 19 for codes
342	Enrollment code	1-9 (see note 7)	
343	Percent women enrolled code	1-9 (see note 8)	
344	Percent graduate students enrolled code	1-9 (see note 9)	
345	Education and General expenditures per student code	(see note 10)	see page 20 for co
346	Library expenditures per student code	1-9 (see note 11)	
347	Value of assets per student code	1-9 (see note 12)	
348	Student/faculty ratio code	1-9 (see note 13)	
349	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136)		
350	(see note 14)		
351			
352	Tuition and fees code	1-9 (see note 15 and page 21)	
353	Percent BAs in biological sciences	(agriculture and bio sci) (see note 16)	
354			
355	Percent BAs in vocational areas (architecture, communications, health prof.,		
356	home economics, library sciences (math and physical science) (see note 16)		

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ATP-ACT DATA

CHARACTER POSITION		
357 358	Percent BAs in social sciences (area studies, psychology, social science, law) (see note 16)	
359 360	Percent BAs in physical sciences (math and physical science) (see note 16)	
361 362	Percent BAs in humanities (fine arts, foreign languages, letters, theology) (see note 16)	
363 364	Percent BAs in engineering (computer science, engineering) (see note 16)	
365 366	Percent BAs in business (business only) (see note 16)	
367 368	Percent BAs in education (education only) (see note 16)	
369	Highest degree offered 1-7	See page 21)
370 371	Affiliation	(see note 17 and page 22)
372 373 374 375	Distance in miles from home to this institution 1=zero or one mile 0=missing data (if zip code not valid) (see note 18)	
376 377 378 379 380 381	Blank	College choice # 4, institutional data (note 26A)
382 383 384 385	Blank	
386 387	State 58 categories	see page 16
388	Region 9 categories	see page 17
389 390 391 392 393	Blank	
394	Race of Institution	1=white; 2=black
395	Control	1-public; 2=private
396	Type	1=univ; 2=other 4-yr; 3=other 2-yr; 4=4-yr. branch of multiuniversity; 5=2-year branch of multiuniversity; 6=2-year branch of multi-four-year institution
397 398	17 Category (See note 3b & Institution Code page 18)	
399	Prestige	1-9 (see note 4 and page 19)
400 401 402	Selectivity divided by ten rounded to three digits:	(Mean institutional SAT V+M or equivalent e.g., 1459=150) (see note 5)
403	Selectivity code	1-9 (see note 6)
404	Enrollment code	1-9 (see note 7)
405	Percent women enrolled code	1-9 (see note 8)
406	Percent graduate students enrolled code	1-9 (see note 9)

} see page 19 for codes

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ATP-ACT DATA

CHARACTER POSITION		
407	Education and General expenditures per student code (see note 10)	see page 20 for co
408	Library expenditures per student code 1-9 (see note 11)	
409	Value of assets per student code 1-9 (see note 12)	
410	Student/faculty ratio code 1-9 (see note 13)	
411 412 413	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136) (see note 14)	
414	Tuition and fees code 1-9 (see note 15 and page 21)	
415 416	Percent BAs in biological sciences (agriculture and bio sci) (see note 16)	
417 418	Percent BAs in vocational areas (architecture, communications, health prof., home economics, library sciences (math and physical science) (see note 16)	
419 420	Percent BAs in social sciences (area studies, psychology, social science, law) (see note 16)	
421 422	Percent BAs in physical sciences (math and physical science) (see note 16)	
423 424	Percent BAs in humanities (fine arts, foreign languages, letters, theology) (see note 16)	
425 426	Percent BAs in engineering (computer science, engineering) (see note 16)	
427 428	Percent BAs in business (business only) (see note 16)	
429 430	Percent BAs in education (education only) (see note 16)	
431	Highest degree offered 1-7 See page 21)	
432 433	Affiliation (see note 17 and page 22)	
434 435 436 437	Distance in miles from home to this institution 1=zero or one mile 0=missing data (if zip code not valid) (see note 18)	
438 439 440 441 442 443	Blank	College choice # 5, institutional data (note 26A)
444 445 446 447	Blank	
448 449	State 58 categories see page 16	
450	Region 9 categories see page 17	
451 452 453 454 455	Blank	
456	Race of Institution 1=white; 2=black	

CHARACTER
POSITION

457 Control 1-public; 2=private
458 Type 1=univ; 2=other 4-yr; 3=other 2-yr; 4= 4-yr..branch of
459 17 Category (See note 3b & multiuniversity; 5=2-year branch of multiuniversity;
460 Institution Code page 18) 6=2-year branch of multi-four-year institution
461 Prestige 1-9 (see note 4 and page 18)
462 Selectivity divided by ten (Mean institutional SAT V+M or equivalent
463 rounded to three digits: e.g., 1459=150) (see note 5)
464
465 Selectivity code 1-9 (see note 6)
466 Enrollment code 1-9 (see note 7) see page 19 for codes
467 Percent women enrolled code 1-9 (see note 8)
468 Percent graduate students enrolled code 1-9 (see note 9)
469 Education and General expenditures per student code (see note 10)
470 Library expenditures per student code 1-9 (see note 11) see page 20 for cod
471 Value of assets per student code 1-9 (see note 12)
472 Student/faculty ratio code 1-9 (see note 13)
473 Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136)
474 (see note 14)
475
476 Tuition and fees code 1-9 (see note 15 and page 21)
477 Percent BAs in biological sciences (agriculture and bio sci) (see note 16)
478
479 Percent BAs in vocational areas (architecture, communications, health prof.,
480 home economics, library sciences (math and physical science) (see note 16)
481 Percent BAs in social sciences (area studies, psychology, social science, law)
482 (see note 16)
483 Percent BAs in physical sciences (math and physical science) (see note 16)
484
485 Percent BAs in humanities (fine arts, foreign languages, letters, theology)
486 (see note 16)
487 Percent BAs in engineering (computer science, engineering) (see note 16)
488
489 Percent BAs in business (business only) (see note 16)
490
491 Percent BAs in education (education only) (see note 16)
492
493 Highest degree offered 1-7 See page 21)
494 Affiliation (see note 17 and page 22)
495
496 Distance in miles from home to this institution
497 1=zero or one mile
498 0=missing data (if zip code not valid) (see note 18)
499
500 College choice # 6, institutional data
501 (note 26A)
502
503 Blank
504
505

CHARACTER POSITION				
506 507 508 509		Blank		
510 511	State	58 categories	see page 16	
512	Region	9 categories	see page 17	
513 514 515 516 517		Blank		
518	Race of Institution	1=white; 2=black		
519	Control	1-public; 2=private		
520	Type	1=univ; 2=other 4-yr; 3=other 2-yr; 4=4-yr. branch of multiuniversity; 5=2-year branch of multiuniversity; 6=2-year branch of multi-four-year institution		
521 522	17 Category (See note 3b & Institution Code page 18)			
523	Prestige	1-9	(see note 4 and page 18)	
524 525 526	Selectivity divided by ten rounded to three digits: e.g., 1459=150)	(Mean institutional SAT V+M or equivalent	(see note 5)	
527	Selectivity code	1-9	(see note 6)	see page 19 for codes
528	Enrollment code	1-9	(see note 7)	
529	Percent women enrolled code	1-9	(see note 8)	
530	Percent graduate students enrolled code	1-9	(see note 9)	
531	Education and General expenditures per student code		(see note 10)	see page 20 for co
532	Library expenditures per student code	1-9	(see note 11)	
533	Value of assets per student code	1-9	(see note 12)	
534	Student/faculty ratio code	1-9	(see note 13)	
535 536 537	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136) (see note 14)			
538	Tuition and fees code	1-9	(see note 15 and page 21)	
539 540	Percent BAs in biological sciences	(agriculture and bio sci)	(see note 16)	
541 542	Percent BAs in vocational areas	(architecture, communications, health prof., home economics, library sciences (math and physical science)	(see note 16)	
543 544	Percent BAs in social sciences	(area studies, psychology, social science, law)	(see note 16)	
545 546	Percent BAs in physical sciences	(math and physical science)	(see note 16)	
547 548	Percent BAs in humanities	(fine arts, foreign languages, letters, theology)	(see note 16)	
549 550	Percent BAs in engineering	(computer science, engineering)	(see note 16)	
551 552	Percent BAs in business	(business only)	(see note 16)	

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TAPE LAYOUT
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ATP-ACT DATA

CHARACTER
POSITION

553 554	Percent BAs in education (education only) (see note 16)		
555	Highest degree offered see page 21		
556 557	Affiliation (see note 17 and page 22		
558 559 560 561	Distance in miles from home to this institution 1=zero 0= missing data (if zip code not valid) (see note 18)		
562 563	Mean college choice selectivity (see note 27)		
564 565	Mean college choice size (see note 28)		
566 567	Mean college choice tuition and fees (see note 29)		
568 569 570 571	Mean college choice distance from home to college (see note 30) END OF COLLEGE CHOICE DATA		
572 573	Test month (see note 31)		
574	Test data year 3=1973, 4=1974, 5=1975 (see note 31)		
575 576	Common verbal aptitude score divided by ten NO MISSING DATA (see note 32)		
577 578	Common mathematical aptitude score divided by ten NO MISSING DATA (see note 33)		
579	High School GPA 1=0.5-0.9, 2=1.0-1.4, 3=1.5-1.9, 4=2.0-2.4, 5=2.5-2.9, 6=3.0-3.4, 7=3.5-4.0 (see note 34)		
580	Income 1=less than $3,000, 2=$3,000-5,999, 3=$6,000-7,499, 4=$7,500-8,999, 5=$9,000-11,999, 6=$12,000-14,999, 7=$15,000-19,999, 8=$20,000 + (see note 35)		
581	Race 1=White, 2=Black, 3=American Indian, 4=Oriental, 5=Mexican American, 6=Puerto Rican American, 7= other (see note 36)		
582	English spoken at home? 1=no 2=yes (see note 37)		
583	Number of dependents 1=none, 2=one, 3=two, 4=three, 5=four, 6=five, 7=six+(note 38)		
584	Anticipated residence at college 1=parents, 2=residence hall, 3=fraternity, 4=other campus housing, 5=off-campus apartment (see note 39)		
585	High school type 1=public, 2=private or other (see note 40)		
586	High school program 1=college prep, 2=bus. or voc., 3=general or other (note 41		
587	High school size 1=less than 100, 2=100 or more (see note 42)		
588	Athletics		
589	Ethnic or racial		High School Extracurricular Activities
590	Journalism, debate, drama		
591	Music		1=no
592	Departmental or pre-professional		2=yes
593	Religious		
594	Social clubs and community organization		(see note 43)
595	Student government		
596	English	Years of Study	1=none
597	Math		2=one year or less
598	Foreign language		3=up to two years
599	Natural sciences	(see note 44)	4=up to three years
600	Social studies		5=more than three years

ATP-ACT DATA

CHARACTER POSITION		
601	Highest degree planned	1=vocational, 2=AA, 3=BA, 4=MA, 5=doctoral or prof. 6=other or undecided (see note 45)
602	Educational and vocational plans	Need Help in
602	Math	
604	Personal counseling	
605	Reading	1=no
606	Study skills	2=yes
607	Writing	(see note 46)
608	Athletics	College Extracurricular Activities
609	Ethnic or racial	
610	Journalism, debate, drama	
611	Music	1=no
612	Departmental or pre-professional	2=yes
613	Religious	
614	Social or community service	
615	Student government	(see note 43)
616	College major field of study	(see note 47 and pp 25-27)
617		
618		
619	Collapsed major	(see note 48 and page 28)
620		
621	English	Plan to Apply for Advanced Placement
622	Math	1=no
623	Foreign language	2=yes
624	Science	(see note 49)
625	Rank in class	3=top quarter, 2=middle, 1=bottom quarter (see note 50)
626		
627		
628		
629		
630		
631		Blank
632		
633		
634		
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TAPE LAYOUT
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ATP-ACT DATA--BEGIN ZIPCODE DATA

CHARACTER POSITION	
651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670	Blank
671	First choice in 11th grade in the same as first choice in 12th grade 1=yes 2=no (see note 53)
672	First choice in 11th grade is one of the six choices in 12th grade 1=yes 2=no (see note 54)
673	Any of the 11th grade choices is among 12th grade choices 1=yes 2=no (see note 55)
674	Both 11th grade choices are among the 12th grade choices 1=yes 2=no see note 56)
675 676	SAT High School GPA (calculated percentage, range=55-95) (see note 34)
677	Blank
678	WEIGHT indicator =not to be weighted, 2=to be weighted (see note 58)
679 680 681 682	Population weight x 10.0 (F4.1) (see note 3)
683 684 685	BEGIN HOME ZIPCODE DATA (see note 59) Distance to nearest public two-year college 1-999
686 687 688	Distance to nearest public four-year college 1-999
689 690 691	Distance to nearest low selectivity public university (prestige < 5) 1-999
692 693 694	Distance to nearest high selectivity public university (selectivity ≥ 1020 and prestige = 5) or (prestige > 5) 1-999
695 696 697	Distance to nearest public black college 1-999

698	Number of private low selectivity colleges within 25 miles (sel 1050)		1-9
699	Number of private medium selectivity colleges within 25 miles (sel 1050-1174)		1-9
700	Number of private high selectivity colleges within 25 miles (sel 1175)		1-9
701			
702	Distance to nearest private black college		1-999
703			
704			
705	Distance to nearest low selectivity Catholic college (sel 1050)		1-999
706			
707			
708	Distance to nearest high selectivity Catholic college (sel 1050)		1-999
709			
710	Number of low selectivity Protestant Colleges within 25 miles (sel 1050)		1-9
711	Number of high selectivity Protestant colleges within 25 miles (sel 1050)		1-9
712		BEGIN STATE LEVEL VARIABLES SEE NOTE 60	
713			
714	Percent unemployed (F4.2)		
715			
716			
717	Average Weekly earnings		
718			
719			
720	NDSL/STUDENT	Total National Direct Student Loan dollars divided by total FTE enrollment	
721			
722			
723	CWSP/STUDENT	Total College Work Study Dollars divided by total FTE enrollment	
724			
725			
726	SEOG/STUDENT	Total supplementary Educational Opportunity Grant dollars divided by total FTE undergraduate enrollment	
727			
728			
729	GSL/STUDENT	Total Guaranteed Student Loan dollars divided by total FTE enrollment	
730			
731			
732	BEOG/STUDENT	Total Basic Educational Opportunity Grant dollars divided by total FTE undergraduate enrollment	
733			
734			
735	SSIG/STUDENT	Total State Student Incentive Grant Dollars divided by total FTE undergraduate enrollment	
736			
737			
738	TOTAID/STUDENT	Total federal aid dollars (NDSL+GSL+CWSP+SEOG+BEOG+SSIG) divided by total FTE enrollment	
739			
740			
741	LOANS/STUDENT	Total federal loan dollars (GSL+NDSL) divided by total FTE enrollment	
742			
743			
744	GRANTS/STUDENT	Total federal grant dollars (SEOG+BEOG+SSIG) divided by total FTE undergraduate enrollment	
745			
746			
747	LOANS/TOTAID	Percent loans: total loan dollars divided by total federal aid dollars X 100 (NDSL+GSL)/(NDSL+GSL+CWSP+SEOG+GEOG+SSIG)	
748			

749		
750	GRANTS/TOTAID	Percent grants: Total federal grant dollars divided by total federal
751		aid dollars X 1000 (NDSL+GSL)/(NDSL+GSL+CWSP+SEOG+BEOG+SSIG)
752		
753	SSAID/RECIPIENT	State Aid per recipient: Total state Student aid dollars divided
754		number of recipients
755		
756	SSAID#/STUDENT	Percent receiving state aid: Number of state student aid awards
757		divided by total FTE enrollment X 1000
758		
759	SSAID$/STUDENT	State Aid per student: Total state student aid dollars divided
760		by total FTE enrollment
761		
762	FED-STAID/STUDENT	Grand Total Aid per student: Total federal and state aid (NDSL+
763		GSL+CWSP+SEOG+BEOG+SSIG+SSAID$) divided by total FTE enrollment
764		
765	CWSP/TOTAID	Percent work study: Total College Work Study dollars divided by
766		total aid dollars CWSP/(NDSL+GSL+CWSP+SEOG+BEOG+SSIG) X 100
767		
768	PCTGRAD	Percent graduate enrollment: Total FTE graduate enrollment divided
769		by total FTE enrollment X 100
770		
771		
772		
773		
774	TOTAID	Total federal aid dollars (NDSL+GSL+CWSP+BEOG+SEOG+SSIG)
775		
776		
777		
778		
779		
780		BLANK

END OF FILE

Higher Education Research Institute
924 Westwood Boulevard, Suite 850
Los Angeles, CA 90024

TAPE LAYOUT
HERI-SISFAP 11-12th Grade
Page 15b of 15b
State Data

749
750
751
752
753
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776
777
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780

NOTE A Further details on codes in selected fields

Column(s)

48-49
110-111
200-201
262-263
324-325
386-387
448-449
510-511

State in which institution is located

1 = Alabama
2 = Alaska
3 = Arizona
4 = Arkansas
5 = California
6 = Colorado
7 = Connecticut
8 = Delaware
9 = District of Col.
10 = Florida
11 = Georgia
12 = Hawaii
13 = Idaho
14 = Illinois
15 = Indiana
16 = Iowa
17 = Kansas
18 = Kentucky
19 = Louisiana
20 = Maine
21 = Maryland
22 = Massachusetts
23 = Michigan
24 = Minnesota
25 = Mississippi
26 = Missouri
27 = Montana
28 = Nebraska
29 = Nevada
30 = New Hampshire
31 = New Jersey
32 = New Mexico
33 = New York
34 = North Carolina
35 = North Dakota
36 = Ohio
37 = Oklahoma
38 = Oregon
39 = Pennsylvania
40 = Rhode Island

NOTE A (continued)

Column(s)

State in which institution is located (continued)

41 = South Carolina
42 = South Dakota
43 = Tennessee
44 = Texas
45 = Utah
46 = Vermont
47 = Virginia
48 = Washington
49 = West Virginia
50 = Wisconsin
51 = Wyoming
52 = US Service Schools
53 = American Samoa
54 = Canal Zone
55 = Guam
56 = Puerto Rico
57 = Trust Terr Pac Is
58 = Virgin Islands

50
112
202
264
326
388
450
512

Region

1 = New England (Conn, ME, Mass, NH, RI, VE)
2 = Mid East (Del, DC, MD, NJ, NY, Pa)
3 = Great Lakes (Ill, Ind, Mich, Oh, Wis)
4 = Plains (Io, Ks, Minn, Mo, Neb, ND, SD)
5 = Southeast (Ala, Ark, Fla, Ga, Ky, La, Miss, NC, SC, Tenn, Va, WVa)
6 = Southwest (Az, NM, Ok, Tx)
7 = Rocky Mountains (Col, Id, Mont, Ut, Wy)
8 = Far West (Ak, Cal, Hi, Nev, Ore, Wa)
9 = Outlying Areas (American Samoa, Canal Zone, Guam, Puerto Rico, Trust Terr Pac Is, Virgin Islands)

Column(s)

Column(s)					Mean SAT Verbal + Math
59-60	17 Category Institutional Code				
121-122					
211-212	1	White	Public	Two Year	
273-274	2	"	"	Four Year	
335-336	3	"	"	University	(Selective 1050 or more)
397-398	4	"	"	University	(Other 1049 or less)
459-460	5	"	Private	Two Year	
521-522	6	"	"	Four Year Religiously Affiliated	(Selective 1025 or more)
	7	"	"	Four Year Religiously Affiliated	(Other 1024 or less)
	8	"	"	Four Year Independent	(highly Selective 1175 or more)
	9	"	"	Four Year Independent	(Selective 1025-1174
	10	"	"	Four Year Independent	(Other 1024 or less)
	11	"	"	University	(Highly Selective 1175 or more)
	12	"	"	University	(Selective 1050-1174
	13	"	"	University	(Other 1049 or less)
	14	Black	Public	Two Year	
	15	"	"	Four Year and University	
	16	"	Private	Two Year	
	17	"	"	Four Year and University	

61
123
213
275
337
399
461
523

Prestige (codes in cells)

	Enrollment								
Selectivity*	Less than 250	250 499	500 999	1000 1499	1500 1999	2000 4999	5000 9999	10000 19999	2000
1300+	5	7	7	8	8	8	9	9	9
1225 1299	4	5	6	7	7	7	7	8	8
1150 1224	3	4	5	5	5	5	6	6	7
1075 1149	2	3	4	4	4	4	5	5	6
1000 1074	2	2	3	4	4	4	4	4	5
925 999	1	1	2	3	3	3	3	3	4
850 924	1	1	1	2	2	2	2	2	3
775 849	1	1	1	1	1	1	2	2	3
Less than 775	1	1	1	1	1	1	2	2	3

*See note 5, page 32

NOTE A (continued)

Column(s)		Code	Value
65 127 217 279 341 403 465 527	Selectivity Coded	1	less than 775
		2	775-849
		3	850-924
		4	925-999
		5	1000-1074
		6	1075-1149
		7	1150-1224
		8	1125-1299
		9	1300+
66 128 218 280 342 404 466 528	Enrollment	1	less than 250
		2	250-499
		3	500-999
		4	1000-1499
		5	1500-1999
		6	2000-4999
		7	5000-9999
		8	10000-19999
		9	20000 or more
67 129 219 281 343 405 467 529	Percent Women Coded	1	0
		2	1-9
		3	10-24
		4	25-44
		5	45-54
		6	55-74
		7	75-90
		8	91-99
		9	100
68 130 220 282 344 406 469 530	Percent Graduate Students Coded	1	0
		2	1-5
		3	6-10
		4	11-15
		5	16-20
		6	21-25
		7	26-30
		8	31-40
		9	over 40

NOTE A (continued)

Column(s)		Code	Value
69	Education and General Expenditures per Student Coded		
131		1	less than 1000
221		2	1000-1499
283		3	1500-1999
345		4	2000-2499
407		5	2500-2999
469		6	3000-3499
531		7	3500-3999
		8	4000 or more
70	Library Expenditures per Student Coded		
132		1	less than $50
222		2	50-99
284		3	100-149
346		4	150-199
408		5	200-249
470		6	250-299
532		7	300-349
		8	350-399
		9	400 or more
71	Value of Assets per Student Coded		
133		1	less than 2000
223		2	2000-3999
285		3	4000-5999
347		4	6000-7999
409		5	8000-11999
471		6	12000-15999
533		7	16000-19999
		8	20000-29999
		9	30000+
72	Student Faculty Ratio Coded		
134		1	less than 10 to 1
224		2	10-12
286		3	13-15
368		4	16-18
410		5	19-21
422		6	22-24
534		7	25-27
		8	28-30
		9	more than 30

Column(s)		Code	Value
76 138 228 290 352 414 476 538	Tuition and Fees	1	less than 250
		2	250-499
		3	500-999
		4	1000-1499
		5	1500-1999
		6	2000-2499
		7	2500-2999
		8	3000-3499
		9	3500 or more

Column(s)		
77-92 139-154 229-244 291-306 353-368 415-430 477-492 539-554	Percent BAs in:	biological sciences vocational areas social sciences physical sciences humanities engineering business education

Value indicated is one greater than the actual percentage (0=missing data)
(e.g., 1=0%
2=1%
3=2%
.
.
.
98=97%
99=98%, 99%, 100%)

Column(s)		Code	Value
93 155 245 307 369 431 493 555	Highest Degree Offered	1	Two but less than four years
		2	Four or five-year baccalaureate
		3	First-professional degree
		4	Master's
		5	Beyond Master;s but less than doctorate
		6	Doctorate
		7	Undergraduate non-degree granting

Column(s)

Affiliation

2 digit code first digit: 1 - public 2-9 = private

94-95
156-157
246-247
308-309
370-371
432-433
494-495
556-557

11 Federal
12 State
13 Local
14 State and local
15 State related
21 Independent, non-profit
25 Organized as profit-making
26 Advent Christian Church
51 African Methodist
24 African Methodist Episcopal Zion Church
52 American Baptist
22 American Evangelical Lutheran Church
53 American Lutheran
46 American Lutheran and Lutheran Church in America
23 American Missionary Association
27 Assemblies of God Church
54 Baptist
28 Brethren Church
29 Brethren in Christ Church
34 Christian and Missionary Alliance Church
61 Christian Church
55 Christian Methodist Episcopal
35 Christian Reformed Church
56 Church of Christ
57 Church of God
31 Church of God in Christ
32 Church of New Jerusalem
58 Church of the Brethren
59 Church of the Nazarene
60 Cumberland Presbyterian
40 Evangelical and Reformed Church
36 Evangelical Congregational Church
37 Evangelical Covenant Church of America
38 Evangelical Free Church of America
39 Evangelical Lutheran Church
62 Evangelical United Brethren
64 Free Methodist
41 Free will Baptist Church
63 Friends
63 Friends United Meeting
70 General Conference Mennonite Church
91 Greek Orthodox
42 Interdenominational
80 Jewish
94 Latter Day Saints
67 Lutheran Church in America
68 Lutheran Church-Missouri Synod
43 Mennonite Brethren Church
69 Mennonite Church
44 Moravian Church
78 Multiple Protestant Denominations
46 North American Baptist
79 Other Protestant
47 Pentecostal Holiness
72 Presbyterian, U.S.
66 Presbyterian, U.S., United Presbyterian
73 Protestant Episcopal
49 Reformed Church in America
50 Reformed Episcopal Church
81 Reformed Presbyterian Church
82 Reorganized Latter Day Saints Church
30 Roman Catholic
92 Russian Orthodox
95 Seventh Day Adventists
93 Seventh Day Baptist Church
75 Southern Baptist
88 Undenominational
93 Unitarian Universalist
84 United Brethren
85 United Christian Mission Society
76 United Church of Christ
86 United Lutheran Church
71 United Methodist
87 United Missionary Church
77 United Presbyterian, USA
89 Wesleyan Church
33 Wisconsin Evangelist Lutheran Synod
90 Young Men's Christian Association
99 Other

NOTE A (continued)

Column(s)

179-180 BLANK

NOTE A (continued)

Column(s)

182-183	State of Residence	Ala.	01
		Alaska	02
		Ariz.	03
		Ark.	04
		Calif.	05
		Colo.	06
		Conn.	07
		Del.	08
		D.C.	09
		Fla.	10
		Ga.	11
		Hawaii	12
		Idaho	13
		Ill.	14
		Ind.	15
		Iowa	16
		Kans.	17
		Ky.	18
		La.	19
		Maine	20
		Md.	21
		Mass.	22
		Mich.	23
		Minn.	24
		Miss.	25
		Mo.	26
		Mont.	27
		Nebr.	28
		Nev.	29
		N.H.	30
		N.J.	31
		N. Mex.	32
		N.Y.	33
		N.C.	34
		N. Dak.	35
		Ohio	36
		Okla.	37
		Oreg.	38
		Pa.	39
		R.I.	40
		S.C.	41
		S. Dak.	42
		Tenn.	43
		Tex.	44
		Utah	45
		Vt.	46
		Va.	47
		Wash.	48
		W. Va.	49
		Wis.	50
		Wyo.	51
		All other	52

NOTE A (continued)

Column(s)

616-618	College Major Field of Study	001	AGRICULTURE
		002	agriculture economics
		003	agronomy, field crops
		004	animal science
		005	fish and game, wildlife management
		006	food science
		007	horticulture
		008	ARCHITECTURE
		009	ART
		010	art history
		011	commercial art
		012	graphic arts
		013	interior decorating
		014	photography
		015	BIOLOGICAL SCIENCES
		016	biochemistry
		017	biology
		018	botany
		019	ecology
		020	zoology
		021	BUSINESS AND COMMERCE
		022	accounting
		023	advertising
		024	business management and administratio
		025	finance and banking
		026	hotel and restaurant administration
		027	industrial management
		028	real estate
		029	sales and retailing
		030	secretarial studies
		031	transportation and commerce
		032	COMMUNICATIONS
		033	journalism
		034	radio and television
		035	COMPUTER SCIENCES AND SYSTEMS ANALYSI
		036	computer science
		037	data processing
		038	systems analysis
		039	EDUCATION
		040	agricultural education
		041	art education
		042	business education
		043	special education
		044	elementary education
		045	health education
		046	industrial arts education

NOTE A (continued)

College major Field of Study (continued)

047 music education
048 physical education
049 secondary education
050 speech and hearing

051 ENGINEERING
052 aerospace and aeronautical engineerin
053 agricultural engineering
054 air-conditioning engineering
055 architectural engineering
056 chemical engineering
057 civil engineering
058 drafting
059 electrical engineering
060 industrial and management engineering
061 mechanical engineering
062 metallurgical engineering
063 mining and mineral engineering
064 naval architecture and marine enginee
065 nuclear technology
066 petroleum engineering

067 ENGLISH AND LITERATURE
068 creative writing
069 literature
070 speech

071 ETHNIC STUDIES

072 FOREIGN LANGUAGES
073 Classical languages
074 French
075 German
076 Italian
077 linguistics
078 Russian
079 Spanish

080 FORESTRY AND CONSERVATION

081 GEOGRAPHY

082 HEALTH AND MEDICAL PROFESSIONS
083 dental assisting
084 dental hygiene
085 dental technology
086 health and safety
087 medical assisting
088 medical technology
089 nursing-practical
090 nursing-registered
091 occupational therapy
092 optometry
093 pharmacy
094 physical therapy

NOTE A (continued)

College Major Field of Study (continued)

095 predentistry
096 premedicine
097 radiology and x-ray technology

098 HISTORY AND CULTURES

099 HOME ECONOMICS
100 clothing and textiles
101 family relations
102 food and nutrition
103 infant and child care
104 institution management

105 MATHEMATICS
106 statistics

107 MILITARY SCIENCE

108 MUSIC
109 music history

110 PHILOSOPHY
111 religion

112 PHYSICAL SCIENCES
113 astronomy
114 chemistry
115 earth science
116 geology
117 oceanography
118 physics

119 PSYCHOLOGY

120 SOCIAL SCIENCES
121 anthropology
122 economics
123 international relations
124 police science
125 political science
126 public administration
127 social work
128 sociology

129 DRAMATIC ARTS
130 dance

131 TRADE AND VOCATIONAL
132 automotive maintenance
133 aviation maintenance
134 carpentry

135 UNDECIDED AND OTHER

Column(s)			
619-620	Collapsed Major Field of Study	01	Agriculture
		02	Architecture
		03	Art
		04	Biological Sciences
		05	Business and Commerce
		06	Communications
		07	Computer Science and Systems Analysis
		08	Education
		09	Engineering
		10	English and Literature
		11	Ethnic Studies
		12	Foreign Languages
		13	Forestry and Conservation
		14	Geography
		15	Health and Medical Professions
		16	History and Cultures
		17	Home Economics
		18	Mathematics
		19	Military Science
		20	Music
		21	Philosophy
		22	Physical Sciences
		23	Psychology
		24	Social Sciences
		25	Theater Arts
		26	Trade and Vocational
		27	Undecided and Other

Note 1

PSAT College major choice code

Numerically Ordered

	College major
09	Petroleum engineering
10	Engineering (unspecified)
11	Aeronautical
12	Ceramic
13	Chemical
14	Civil, structural
15	Electrical
16	Industrial
17	Mechanical
18	Metallurgical
19	Mining
20	Sciences (unspecified)
21	Astronomy
22	Biology
23	Chemistry
24	Geology
25	Mathematics, statistics
26	Physics
27	Meteorology
28	Biochemistry
29	Biophysics
30	Advertising
31	Premedicine
32	Predentistry
33	Technology (medical, lab, dental)
34	Nursing
35	Occupational therapy
36	Physical therapy
37	Veterinary science
38	Pharmacy
39	Preoptometry
40	Liberal arts (unspecified)
41	Art (fine arts)
42	English
43	Languages (classical)
44	Music
45	Philosophy
46	History
47	Social sciences (unspecified)
48	Education (unspecified)
49	Psychology

	College major
50	Anthropology, archaeology
52	Art (graphic, design)
53	Biological sciences (unspecified)
54	Botany
55	Drama
56	Earth sciences (unspecified)
57	Economics
58	Art education
59	Elementary education
60	Business administration
61	Accounting
62	Actuarial science
63	Banking, finance
64	Music education
65	Transportation studies
66	Secondary education
67	Agricultural engineering
68	Engineering science
69	Geography
70	Agriculture
71	Architecture
72	Forestry
73	Home economics
74	Journalism
75	Library science
76	Physical education
77	Speech
78	Languages (modern)
79	Literature (comparative)
80	Oceanography
81	Physical sciences (unspecified)
82	Physiology
83	Political science
84	Prelaw
85	Religious education
86	Sociology
87	Religion, theology
88	Zoology
89	Special education
90	Undecided
99	Other

Alphabetically Ordered

	College major
61	Accounting
62	Actuarial science
30	Advertising
70	Agriculture
50	Anthropology, archaeology
71	Architecture
41	Art (fine arts)
52	Art (graphic, design)
21	Astronomy
63	Banking, finance
28	Biochemistry
53	Biological sciences (unspecified)
22	Biology
29	Biophysics
54	Botany
60	Business administration
23	Chemistry
55	Drama
56	Earth sciences (unspecified)
57	Economics
48	Education (unspecified)
58	Art
59	Elementary
64	Music
66	Secondary
89	Special
10	Engineering (unspecified)
11	Aeronautical
67	Agricultural
12	Ceramic
13	Chemical
14	Civil, structural
15	Electrical
16	Industrial
17	Mechanical
18	Metallurgical
19	Mining
09	Petroleum
68	Science
42	English
72	Forestry

	College major
69	Geography
24	Geology
46	History
73	Home economics
74	Journalism
43	Languages (classical)
78	Languages (modern)
40	Liberal arts (unspecified)
75	Library science
79	Literature (comparative)
25	Mathematics, statistics
27	Meteorology
44	Music
34	Nursing
35	Occupational therapy
80	Oceanography
38	Pharmacy
45	Philosophy
76	Physical education
81	Physical sciences (unspecified)
36	Physical therapy
26	Physics
82	Physiology
83	Political science
32	Predentistry
84	Prelaw
31	Premedicine
39	Preoptometry
49	Psychology
87	Religion, theology
85	Religious education
20	Sciences (unspecified)
47	Social sciences (unspecified)
86	Sociology
77	Speech
33	Technology (medical, lab, dent
65	Transportation studies
37	Veterinary science
88	Zoology
90	Undecided
99	Other

Note 2

PSAT Career choice code

Numerically Ordered

	Career choice
09	Petroleum engineer
10	Engineer (unspecified)
11	Aeronautical
12	Ceramic
13	Chemical
14	Civil, structural
15	Electrical
16	Industrial
17	Mechanical
18	Metallurgical
19	Mining
20	Scientist (unspecified)
21	Astronomer
22	Biological scientist
23	Chemist
24	Geologist
25	Mathematician, statistician
26	Physicist
27	Meteorologist
28	Biochemist
29	Advertiser
30	Anthropologist, archaeologist
31	Physician
32	Dentist
33	Medical technologist
34	Nurse
35	Occupational therapist
36	Physical therapist
37	Veterinarian
38	Pharmacist
39	Optometrist
40	Educator, teacher (unspecified)
42	Elementary
43	Secondary
44	College
45	Religious
46	Special
47	Linguist, interpreter
48	Artist (fine arts)
49	Psychologist
51	Lawyer
52	Government service, politician
53	Minister, theologian, clergyman

	Career choice
54	Sociologist
55	Biophysicist
56	City planner
57	Artist (graphic, design)
58	Musician (except teacher)
59	Computer systems work
60	Business (management)
61	Accountant
62	Actuary
63	Hotel and restaurant manager
64	Geographer
65	Transportation (management)
66	Economist
67	Administrator (education)
68	Art teacher
69	Guidance counselor (education)
70	Farmer, rancher
71	Architect
72	Forester, conservationist
73	Home economist, dietitian
74	Journalist, writer
75	Librarian
76	Physical education teacher
77	Actor, director
78	Entertainer (radio, TV)
79	Military
80	Music teacher
82	Agricultural engineer
83	Science engineer
84	Banker, broker, financier
85	Health fields (unspecified)
86	Interior decorator
87	Oceanographer
88	Personnel work (industrial)
89	Physical scientist
90	Undecided
91	Physiologist
92	Political scientist
93	Sales representative
94	Social scientist (unspecified)
95	Social worker
96	Speech therapist
99	Other

Alphabetically Ordered

	Career choice
61	Accountant
77	Actor, director
62	Actuary
29	Advertiser
30	Anthropologist, archaeologist
71	Architect
48	Artist (fine arts)
57	Artist (graphic, design)
21	Astronomer
84	Banker, broker, financier
28	Biochemist
22	Biological scientist
55	Biophysicist
60	Business (management)
23	Chemist
56	City planner
59	Computer systems work
32	Dentist
66	Economist
40	Educator, teacher (unspecified)
67	Administrator
68	Art
44	College
42	Elementary
69	Guidance counselor
80	Music
76	Physical education
45	Religious
43	Secondary
46	Special
10	Engineer (unspecified)
11	Aeronautical
82	Agricultural
12	Ceramic
13	Chemical
14	Civil, structural
15	Electrical
16	Industrial
17	Mechanical
18	Metallurgical
19	Mining
09	Petroleum
83	Science

	Career choice
78	Entertainer (radio, TV)
70	Farmer, rancher
72	Forester, conservationist
64	Geographer
24	Geologist
52	Government service, politician
85	Health fields (unspecified)
73	Home economist, dietitian
63	Hotel and restaurant manager
86	Interior decorator
74	Journalist, writer
51	Lawyer
75	Librarian
47	Linguist, interpreter
25	Mathematician, statistician
33	Medical technologist
27	Meteorologist
79	Military
53	Minister, theologian, clergyman
58	Musician (except teacher)
34	Nurse
35	Occupational therapist
87	Oceanographer
39	Optometrist
88	Personnel work (industrial)
38	Pharmacist
89	Physical scientist
36	Physical therapist
31	Physician
26	Physicist
91	Physiologist
92	Political scientist
49	Psychologist
93	Sales representative
20	Scientist (unspecified)
94	Social scientist (unspecified)
95	Social worker
54	Sociologist
96	Speech therapist
65	Transportation (management)
37	Veterinarian
90	Undecided
99	Other

Note 3

1970 census data were used to create a matrix, by state, of sex x race x family income for all households with a student in 11th grade. Family incomes were inflated to 1974 levels using CPS data. Data from this 11th grade-12th grade file were also tabulated by state, sex, race, and family income (from SAT or ACT 12th grade questionnaire). Population weights were computed by dividing each cell in the census matrix by its corresponding cell in the matrix based on the data in this file (note that subjects for whom home states were missing were not included). Since the census tape included 1 in 100 households, these counts tended to be substantially smaller than the counts from this file (which includes about 1 in every 3 high school juniors). As a consequence, there were a number of occasions when a particular cell contained counts from the sample tape but no counts from the 1 percent census sample. In such cases we used census counts from a matrix that summed across all states; i.e. a national matrix of sex by race by family income. Also, if any cell count in the sample matrix was missing, a weight of zero was given. Therefore, 226,450 of 724,450 cases that were missing either race, income or sex were given a weight of zero.

Note 3b

This variable categorized the institution by race (columns 56 and 118), control (columns 57 and 119), type (columns 58 and 120), and selectivity (columns 62-64 and 124-126). For further information refer to the value list for this variable (page 32).

Note 3c

Students were asked to indicate if they were "eligible and wish to be considered" for the program of the National Scholarship Service and Fund for Negro Students (NSSFNS).

Note 4

An interaction variable which relates total enrollment with institutional selectivity, yielding a 1-9 value of prestige.* For further information refer to the value list for this variable (page 18).

Note 5

Selectivity is an estimate of the average academic ability of the entering class expressed as a SAT Verbal + Math score. The range is thus 400-1600. These estimates are based on data provided in several college guides ** and on data reported previously in Astin, A. W., Predicting Academic Performance in College; New York: The Free Press, 1971. Most estimates were originally in the form of mean SAT Verbal (V) plus Mathematical (M) scores of entering freshmen. Mean ACT composite scores were converted into comparable mean SAT V+M scores (see Table 3-1 in above reference of Astin, 1971). These selectivity measures are more current, more accurate (i.e., most were provided directly by the institutions), and involve less missing data (i.e., fewer with unknown selectivity). For details of the revised measures, see A.W. Astin and J.W. Henson, "New Measures of College Selectivity," Research in Higher Education, 1977, 6, 1-9.

*See A.W. Astin and C.B.T. Lee, The Invisible Colleges, (McGraw-Hill, 1971), Chapter 1.

**See A.W. Astin, Predicting Academic Performance in College, (New York: Free Press, 1971).

J. Cass and M. Birnbaum, Comparative Guide to American Colleges, (New York: Harper & Row, 1973).

College Division of Varron's Educational Series. Barron's Profiles of American Colleges, (Woodbury: Barron's Educational Series, 1974).

W.T. Furniss (ed.), American Universities and Colleges, (Washington: American Council on Education, 1972).

Note 6

This variable is the recoding of the institutional selectivity (from the preceeding 3 columns) into a nine category variable.

Note 7

This variable is the total institutional enrollment from the 72-73 HEGIS coded to a nine category variable.

Note 8

This variable is the percentage of the total institutional enrollment who are women (from the 72-73 HEGIS) coded to a nine category variable.

Note 9

This variable is the percentage of the total institutional enrollment who are graduate students (from the 72-73 HEGIS) coded into a nine category variable.

Note 10

Education and general expenditures (from the 72-73 HEGIS) were divided by the sum of undergraduate enrollment plus three times the graduate enrollment to yield a per student expenditure. (Graduate student enrollment was inflated by a factor of three to reflect the larger expenditures in this area). This expenditure was recoded to yield an eight category variable.

Note 11

Library expenditures (from the 72-73 HEGIS) were divided by the sum of undergraduate enrollment plus three times graduate enrollment to yield a per student expenditure. (Graduate student enrollment was inflated by a factor of three to reflect the larger expenditures in this area). This expenditure was recoded to yield a nine category variable.

Note 12

Value of land, buildings, and equipment (from the 72-73 HEGIS) was divided by the sum of undergraduate enrollment plus three times graduate enrollment to yield a per student expenditure. (Graduate student enrollment was inflated by a factor of three to reflect the larger expenditures in this area). This expenditure was recoded to yield a nine category variable.

Note 13

The sum of undergraduate enrollment plus three times graduate enrollment was divided by the number of faculty. The value was then recoded to a nine category variable.

Note 14

Tuition and fees (from the 72-73 HEGIS) rounded to three digits (example: $1356 = 136).

Note 15

A collapsing of tuition and fees into nine categories.

Note 16

Earned degrees data from all relevant fields were summed and then divided by total BA degrees granted in 1972-73. For further information refer to the value list for these variables. (page 21)

Note 17

This code reflects the institutional affiliation (public or private and, if private, religious affiliation). The source is the 1972-73 HEGIS ("Affiliation of institution and states as public and private").

Note 18

The distance is calculated from home to college zip code by converting each zip code into coordinates of latitude and longitude. Given these coordinates, it is possible to calculate the distance between two points on a sphere which may be converted to miles. If the distance to a college is computed as zero, the value "1" is assigned as "0" is used to indicate missing data. The method of converting zipcodes to latitude/longitude coordinates was accomplished using a tape provided by the National Technical Information Services.

Note 19 *

This variable is the mean selectivity of the instituional choice set from the PSAT record rounded to two digits.

Note 20 *

This variable, the mean coded enrollment of the institutional choice set from the PSAT record.

Note 21*

This variable is the mean tuition and fees of the institutional choice set from the PSAT record rounded to two digits. (tens of dollars).

Note 22 *

This variable is the mean distance in miles from home to those colleges in the institutional choice set from the PSAT record.

No Note 23

*If the student gave only one choice, the "mean" equals the data for the first choice.

Note 24

Values from SAT were recoded as follows:
1=sophomore → 4=other
2=junior → 1=junior
3=senior → 2=senior
4=1st yr. college → 3=college student
5=2nd yr. college → 3=college student
6=other → 4=other

Values from ACT were recoded as follows:
1=junior → 1=junior
3=senior → 2=senior
5=high school graduate → 4=other
7=college student → 3=college student
9=other → 4=other

No Note 25

Note 26

The number of college IDs in the 12th grade record is the count of college IDs the student provided. Following this variable are the institutional data for each of these college codes. There is a maximum of six possible college codes. When there is not a college code, the institutional data field for that college is blank. There may be instances in which there is no institutional data for a college. If this is the case, the data area for that college will be blank, but this variable will not reflect the missing data (i.e., it will specify the total number of college codes listed on the 12th grade record rather than the number of institutional data fields with data).

Note 26A

The institutional data for a particular college code is 62 columns long and is present for all valid college choice codes. The two groups of 62 (cols. 38-99) are the institutional data for the two PSAT college codes, and the six groups of 62 (cols. 190-571) are the institutional data for the six college codes in the 12th grade data (SAT or ACT). The main source of the institutional data is the 1972-73 (fiscal year '73) Higher Educational General Information Survey (HEGIS).

Note 27

This variable is the mean selectivity of the institutional choice set from the 12th grade record rounded to 2 digits.

Note 28

This variable, the mean coded enrollment of the institutional choice set from the 12th grade record, has one decimal place.

Note 29

This variable is the mean tuition and fees of the institutional choice set from the 12th grade record rounded to 2 digits (tens of dollars).

Note 30

This variable is the mean distance in miles from home to the colleges in the institutional choice set from the 12th grade record.

Note 31

If the source of the 12th grade record is ACT, the data are from the 1974-75 ACT Student Record File.
If the source of the 12th grade record is SAT, and there was only one administration, the data are from that administration. In the case of multiple SAT administrations, a priority of test dates was established in an attempt to utilize data from the early part of the senior year.
The following test dates are listed from most desired (1) to least desired (15) for selection. For multiple administrations the most recent test date was selected.

1) 12/74
2) 11/74
3) 10/74
4) 2/75
5) 4/75
6) 6/75
7) 6/74
8) 4/74
9) 2/74
10) 12/73
11) 11/73
12) 10/73
13) 6/73
14) 4/73
15) 2/73

Note 32

SAT verbal score (range 200-800) where available, otherwise ACT equivalent. The ACT equivalent was obtained by summing three ACT subtests (English, natural sciences, social sciences) and converting to SAT equivalent by equipercentile method (N=14865). The sum of the three (range 3-108) ACT subtests was used (rather than simply the ACT English subtest) because it resulted in a better correlation with the SAT verbal score (r=.82 vs. .69). If a record had one or more of the ACT subtests missing, the entire record was dropped from the file. Conversion table shown below.

ACT Sum Eng & Nat Sci & Soc Sci	SAT Verbal Equivalent	ACT Sum Eng & Nat Sci & Soc Sci	SAT Verbal Equivalent
108	800	69	480
107	800	68	470
106	800	67	460
105	800	66	460
104	800	65	450
103	800	64	440
102	800	63	440
101	790	62	440
100	770	61	430
99	760	60	430
98	750	59	420
97	740	58	420
96	730	57	410
95	720	56	410
94	710	55	400
93	700	54	400
92	690	53	390
91	680	52	390
90	670	51	380
89	660	50	380
88	640	49	370
87	630	48	370
86	620	47	360
85	610	46	360
84	600	45	350
83	590	44	350
82	580	43	340
81	570	42	340
80	560	41	330
79	550	39	320
78	540	38	310
77	540	37	310
76	530	36	310
75	520	35	300
74	510	34	300
73	510	33	290
72	500	32	280
71	490	31	280
70	480	30	270

ACT Sum Eng & Nat Sci & Soc Sci	SAT Verbal Equivalent
29	260
28	260
27	250
26	250
25	240
24	230
23	230
22	220
21	220
20	210
19	210
18	210
17	210
16	200
15	200
14	200
13	200
12	200
11	200
1-10	200

Note 33

SAT math score (range 200-800) where available, otherwise ACT equivalent obtained by an equipercentile conversion of the ACT Mathematical subtest score (range 1-36) to SAT. Correlation between SAT-M and converted ACT-M is .85 (N = 14,000). Conversion table shown below.

ACT Math Score	SAT Math Equiv.	ACT Math Score	SAT Math Equiv.
36	780	18	440
35	750	17	430
34	730	16	410
33	710	15	390
32	700	14	380
31	680	13	370
30	660	12	360
29	640	11	350
28	610	10	340
27	590	9	330
26	560	8	330
25	530	7	320
24	510	6	300
23	500	5	290
22	480	4	280
21	470	3	270
20	460	2	260
19	450	1	240

Note 34

The SAT questionnaire did not contain an overall high school GPA item, instead it asked the student to report the most recent grades in six areas. A GPA was calculated by assigning percentage scores to each grade category as follows: A=95, B=85, C=75, D=65, F=55. The scores were then summed weighting English by 3, Math by 2, and all others by 1. The sum was divided by the number of grades reported, resulting in a mean calculated GPA in percentage from.

The ACT high school GPA was converted to SAT percentage equivalents by equipercentile method (N=14000). Questionnaire items and recoded values are shown below.

SAT

In answering questions 6 through 11, please indicate the latest year-end or semester-end marks that you received in each subject taken since you began the ninth grade.

After blackening the letter corresponding to your mark in a subject, blacken the letter H if the mark was received in an honors, advanced, or accelerated course.

- **(A) Excellent (usually 90-100)**
- **(B) Good (usually 80-89)**
- **(C) Fair (usually 70-79)**
- **(D) Passing (usually 60-69)**
- **(F) Failing (usually 59 or below)**
- **(G) Only "pass-fail" marks were assigned and I received a pass.**
- **(H) The mark reported was in an honors, advanced, or accelerated course.**

6. English

7. Mathematics

8. Foreign Languages

9. Biological Sciences

10. Physical Sciences

11. Social Studies

ACT

82. My overall high school average is (was)

D– to D (0.5-0.9)	1
D to C– (1.0-1.4)	2
C– to C (1.5-1.9)	3
C to B– (2.0-2.4)	4
B– to B (2.5-2.9)	5
B to B+ (3.0-3.4)	6
A– to A (3.5-4.0)	7

SAT calculated percentage described above

ACT converted to SAT calculated percentage as follows:

ACT Code ⟶	SAT Conversion
7	93
6	87
5	83
4	78
3	74
2	71
1	68

Correlation between SAT GPA and converted ACT GPA is .77 (N=14,000).

Note 35 SAT income categories were collapsed to match ACT categories as follows:

SAT

28. **What is the approximate income of your parents before taxes? Include taxable and nontaxable income from all sources.**

- **(A) Less than $3,000 a year (about $60 a week or less)**
- **(B) Between $3,000 and $5,999 a year (from $60 to $119 a week)**
- **(C) Between $6,000 and $7,499 a year (from $120 to $149 a week)**
- **(D) Between $7,500 and $8,999 a year (from $150 to $179 a week)**
- **(E) Between $9,000 and $10,499 a year (from $180 to $209 a week)**
- **(F) Between $10,500 and $11,999 a year (from $210 to $239 a week)**
- **(G) Between $12,000 and $13,499 a year (from $240 to $269 a week)**
- **(H) Between $13,500 and $14,999 a year (from $270 to $299 a week)**
- **(I) Between $15,000 and $16,499 a year (from $300 to $329 a week)**
- **(J) Between $16,500 and $17,999 a year (from $330 to $359 a week)**
- **(K) Between $18,000 and $19,999 a year (from $360 to $399 a week)**
- **(L) Between $20,000 and $21,999 a year (from $400 to $439 a week)**
- **(M) Between $22,000 and $23,999 a year (from $440 to $479 a week)**
- **(N) Between $24,000 and $25,999 a year (from $480 to $519 a week)**
- **(O) Between $26,000 and $27,999 a year (from $520 to $559 a week)**
- **(P) Between $28,000 and $30,000 a year (from $560 to $600 a week)**
- **(Q) More than $30,000 a year ($600 or more a week)**

SAT Value	ACT Value	RECODE Value
A	0	1=less than $3,000
B	1	2=$3,000 - 5,999
C	2	3=$6,000 - 7,499
D	3	4=$7,500 - 8,999
E, F	4	5=$9,000 - 11,999
G, H	5	6=$12,000 - 14,999
I, J, K	6	7=$15,000 - 19,999
L, M, N O, P, Q	7	8=$20,000 or more
	8	0=missing data

ACT

59. To plan financial aid programs for entering students, colleges need to know the financial background of their students. Please estimate as accurately as possible your family's income. (Indicate total income before taxes.)

Less than $3,000	0
$3,000 to $5,999	1
$6,000 to $7,499	2
$7,500 to $8,999	3
$9,000 to $11,999	4
$12,000 to $14,999	5
$15,000 to $19,999	6
$20,000 and over	7
I consider this information confidental	8

Note 36 SAT and ACT racial background items had the same categories but in different order.

SAT

The College Board wants to be sure that its tests and services are fair and useful to all candidates. If you answer questions 24 and 25, it will help the College Board evaluate and improve its tests and services. Your responses will also be reported to your school and to those colleges that can and will accept such information in order to be sure that their programs are fair and useful to students of all racial and ethnic backgrounds.

24. How do you describe yourself?

(A) American Indian
(B) Black or Afro-American or Negro
(C) Mexican-American or Chicano
(D) Oriental or Asian-American
(E) Puerto Rican
(F) White or Caucasian
(G) Other

ACT

65. Colleges often provide special educational programs and opportunities for students from particular racial or ethnic backgrounds. ACT releases this information only to those institutions that request it. If your background is listed below and you wish to identify yourself, please respond to this item. You are not required to provide this information.

Afro-American Black. 1
American Indian Native American
Aleutian (Eskimo). 2
Caucasian American White. 3
Mexican American or Chicano. 4
Oriental American. 5
Puerto-Rican or Spanish-speaking
American. 6
Other. 7
I prefer not to respond. 8

SAT Value	ACT Value	RECODE Value
F	3	1 = White
B	1	2 = Black
A	2	3 = American Indian
D	5	4 = Oriental
C	4	5 = Mexican American
E	6	6 = Puerto Rican-American
G	7	7 = other
	8	0 = missing data

Note 37 The SAT and ACT English language items were phrased somewhat differently, but had similar response categories.

SAT

25. Is English your best language?

(Y) Yes (N) No

ACT

64. Is English the language most frequently spoken in your home?

yes. . . . . y 2
no. . . . . n 1
I prefer not to respond. 0 0

SAT	ACT	RECODE
Y	Y	2== yes
N	N	1 = no
	0	0 = missing data

Note 38 The ACT number of dependents item had more response categories than the SAT item. Collapsing the top ACT categories resulted in the following recode.

SAT

26. How many of your brothers or sisters are dependent on your parents or legal guardian for financial support?

(A) None (B) One (C) Two (D) Three

(E) Four (F) Five (G) Six or more

ACT

61. How many brothers and sisters under 21 years of age do you have?

None	0
One	1
Two	2
Three	3
Four	4
Five	5
Six	6
Seven	7
Eight	8
Nine or more	9

SAT	ACT	RECODE
A	0	1 = none
B	1	2 = one
C	2	3 = two
D	3	4 = three
E	4	5 = four
F	5	6 = five
G	6, 7, 8, 9	7 = six or more

Note 39 The SAT residence item included separate response categories for single-sex and coed dorms which were collapsed to accommodate the ACT dorm category.

SAT

30. **Where do you prefer to live during your first two years in college?**

(A) At home
(B) Single-sex dorm
(C) Coed dorm
(D) Fraternity or sorority house
(E) On-campus apartment
(F) Off-campus apartment

ACT

4. Upon entering college, I plan to live in

residence hall 1
off-campus room or apartment. . . 2
parent's or relatives home. . . . 3
married student housing. 4
fraternity or sorority. 5

SAT Value	ACT Value	RECODE Value
A	3	1 = parents' home
B, C	1	2 = residence hall
D	5	3 = fraternity or sorority
E	4	4 = other campus housing
F	2	5 = off-campus apartment

Note 40 The ACT item listed many types of private high schools which were collapsed into one category to correspond to the SAT "private" category.

SAT	ACT
2. What kind of high school are you attending? (A) Public (B) Private	78. The high school from which I will (did) graduate can be best described as a public high school................1 Catholic high school..............2 private independent school........3 private denominational school.....4 military school...................5 other.............................6

SAT Value	ACT VAlue	RECODE Value
A	1	1 = public
B	2, 3, 4, 5, 6	2 = private or other

Note 41 The SAT and ACT items on type of high school program were similar, resulting in a simple recode.

SAT

3. Which of the following best describes your present high school program?

(A) Academic or college preparatory
(B) General
(C) Career-oriented (business, vocational, industrial arts)
(D) Other

ACT

83. I would describe my high school curriculum or program as

business or commercial. 1
vocational-occupational 2
college preparatory 3
other or general 4

SAT Value	ACT Value	RECODE Value
A	3	1 = college preparatory
C	1, 2	2 = business or vocational
B, D	4	3 = general or other

Note 42 Response categories for the SAT and ACT items on high school class size were so different that the recoded common item could retain only two categories.

SAT

4. About how many students are there in your high school class?

(A) Fewer than 100 (B) 100-249 (C) 250-499
(D) 500-749 (E) 750 or more

ACT

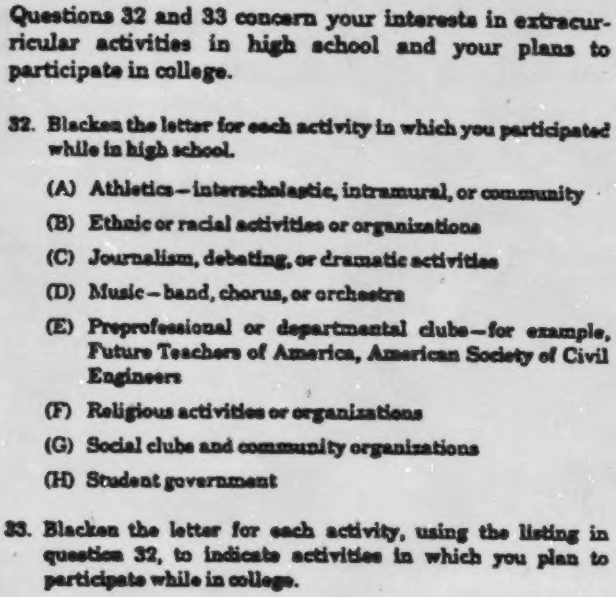
79. The number of students in my high school graduating class is (was)

fewer than 25.	1
25-99.	2
100-199.	3
200-399.	4
400-599.	5
600-899.	6
900 or more.	7

SAT Value	ACT Value	RECODE Value
A	1, 2	1 = fewer than 100
B, C, D, E	3, 4, 5, 6, 7	2 = 100 or more

Note 43 From the SAT and ACT items which appear below, eight dummy (1=no 2=yes) variables were created for the high school and college extracurricular activities. Because the ACT list of activities was longer than the SAT list, the items were collapsed as follows:

SAT

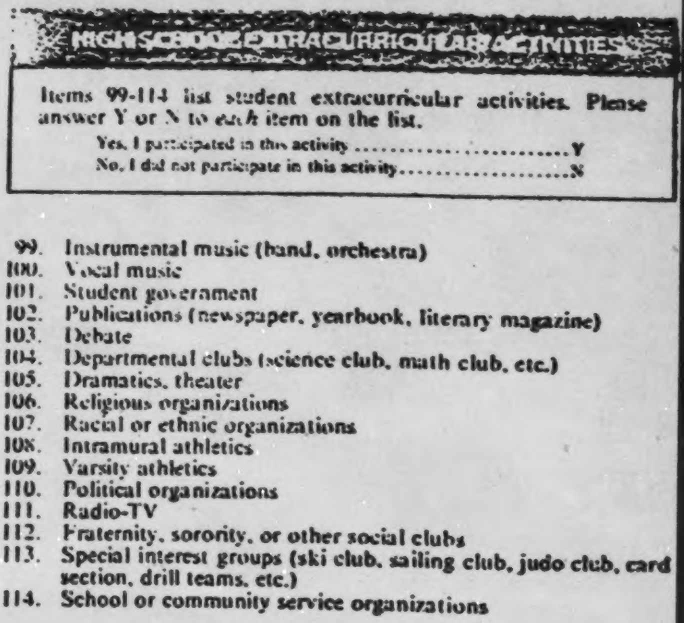


Questions 32 and 33 concern your interests in extracurricular activities in high school and your plans to participate in college.

32. Blacken the letter for each activity in which you participated while in high school.
    - (A) Athletics—interscholastic, intramural, or community
    - (B) Ethnic or racial activities or organizations
    - (C) Journalism, debating, or dramatic activities
    - (D) Music—band, chorus, or orchestra
    - (E) Preprofessional or departmental clubs—for example, Future Teachers of America, American Society of Civil Engineers
    - (F) Religious activities or organizations
    - (G) Social clubs and community organizations
    - (H) Student government

33. Blacken the letter for each activity, using the listing in question 32, to indicate activities in which you plan to participate while in college.

ACT



HIGH SCHOOL EXTRACURRICULAR ACTIVITIES

Items 99-114 list student extracurricular activities. Please answer Y or N to each item on the list.

Yes, I participated in this activity ....Y
No, I did not participate in this activity..........................N

99. Instrumental music (band, orchestra)
100. Vocal music
101. Student government
102. Publications (newspaper, yearbook, literary magazine)
103. Debate
104. Departmental clubs (science club, math club, etc.)
105. Dramatics, theater
106. Religious organizations
107. Racial or ethnic organizations
108. Intramural athletics
109. Varsity athletics
110. Political organizations
111. Radio-TV
112. Fraternity, sorority, or other social clubs
113. Special interest groups (ski club, sailing club, judo club, card section, drill teams, etc.)
114. School or community service organizations

SAT	ACT	Dummy Variable
A	108, 109	athletics
B	107	ethnic or racial
C	102, 103, 105	journalism, debate, drama
D	99, 100	music
E	104	departmental or pre-professional
F	106	religious
G	112, 113, 114	social clubs and community organizations
H	101	student government

Note 44 From the SAT and ACT items which appear below, five variables (range 1-5) were created for years of study in each of five subject areas. Due to slight differences in the two items, the subject areas and the years of study response categories were recoded as shown below:

SAT

Questions 12 through 17 ask you to blacken the letter corresponding to the total years of study you expect to complete in certain subjects. Include in the total only the courses you have taken since beginning the ninth grade and those you expect to complete before graduation from high school. If you have completed less than a full year in a subject, answer as if you have completed a full year. Do not count a repeated year of the same course as an additional year of study.

(A) I did not take any courses in the subject.
(B) One year or the equivalent
(C) Two years or the equivalent
(D) Three years or the equivalent
(E) Four years or the equivalent
(F) More than four years or the equivalent

12. English

13. Mathematics

14. Foreign Languages

15. Biological Sciences

16. Physical Sciences

17. Social Studies

ACT

Years Certain Subjects Studied
(Grades 9-12)

Items 84-93 concern the number of years you will have studie certain subjects by the time you graduate (or have studied, if yo have graduated) from high school. Use the responses below t answer *all* the items in this group.

Half-year	1
One year	2
One and a half years	3
Two years	4
Two and a half years	5
Three years	6
Three and a half years	7
Four years or more	8
I did not take any courses in the subject	9

84. English
85. Mathematics
86. Social studies (history, civics, geography, economics)
87. Natural sciences (biology, chemistry, physics)
88. Foreign language (Spanish)
89. Foreign language (German)
90. Foreign language (French)
91. Foreign language (other)
92. Business or commercial
93. Vocational-occupational

SAT Item	ACT Item	Created Variable	Years of Study SAT	Years of Study ACT	RECODE
12	84	English	A	9	1 = none
13	85	Mathematics	B	1, 2	2 = one year or less
14	88, 89, 90, 91	Foreign language	C	3, 4	3 = up to two years
			D	5, 6	4 = up to three years
15, 16	87	Natural sciences	E, F,	7, 8	5 = more than three years
17	86	Social Studies			

Note 45 SAT and ACT degree aspiration items were so similar that a simple conversion to a new numbering scheme was all that was required.

SAT

23. What is the highest level of education you plan to complete beyond high school?

(A) A two-year specialized training program (for example, electronics, laboratory technician)
(B) A two-year liberal arts degree (Associate of Arts)
(C) Bachelor's degree (B.A. or B.S.)
(D) Master's degree (M.A. or M.S.)
(E) Doctor's degree or other professional degree (such as Ph.D. or M.D.)
(F) Other or undecided

ACT

16. What is the highest level of education you expect to complete?

Vocational or technical program (less than 2 years)	1
Two-year college degree	2
Bachelor's degree	3
One or 2 years of graduate study (MA, MBA, etc.)	4
Professional level degree (PhD, MD, LLB, or JD, etc.)	5
Other	6

SAT Value	ACT Value	RECODE Value
A	1	1 = Vocational Program
B	2	2 = Associate (two-year)
C	3	3 = Bachelor
D	4	4 = Master
E	5	5 = Doctoral or Professional
F	6	6 = Other or undecided

Note 46 The SAT remedial help item included a response category for part-time work placement which was not included in the ACT item and had to be dropped. This resulted in the scheme shown below which created six dummy variables (1=no, 2=yes).

SAT

31. You may want to receive help outside regular course work from the college you plan to attend. If so, blacken the letter for each area in which you need help.

(A) Counseling about educational and vocational plans and opportunities

(B) Improving mathematical ability

(C) Finding part-time work

(D) Counseling about personal problems

(E) Increasing reading ability

(F) Developing good study habits

(G) Improving writing ability

ACT

Many colleges offer special assistance for the individual development of students. You may wish to seek such assistance. Please respond Y or N to each item.

19. I need help deciding on my educational and vocational plans.

20. I need help in expressing my ideas in writing.

21. I need help in improving my reading speed and comprehension.

22. I need help in improving my study skills.

23. I need help in improving my mathematical skills.

24. I would like personal counseling.

SAT Item	ACT Item	Created Variables
A	19	Educational and vocational plans
G	20	Writing
E	21	Reading
F	22	Study skills
B	23	Mathematics
D	24	Personal counseling

Note 47: This variable was collapsed (from both SAT and ACT tests) to 135 categories. The following lists indicate what each source value (ACT or SAT) became when recoded.

ATP Major Fields of Study Recode List

100	AGRICULTURE	001	AGRICULTURE
101	agriculture economics	002	agriculture economics
102	agronomy, field crops	003	agronomy, field crops
103	animal science	004	animal science
104	dairy science	004	animal science
105	fish and game, wildlife management	005	fish and game, wildlife management
106	food science	006	food science
107	horticulture	007	horticulture
108	landscaping	007	horticulture

109	ARCHITECTURE AND ENVIRONMENTAL DESIGN	008	ARCHITZCTURE
110	architecture	008	ARCHITECTURE
111	city planning	008	ARCHITECTURE
112	urban development	008	ARCHITECTURE

113	ART	009	ART
114	art history	010	art history
115	commercial art	011	commercial art
116	design	009	ART
117	fashion design	009	ART
118	graphic arts	012	graphic arts
119	interior decorating	013	interior decorating
120	photography	014	photography
121	printing	012	graphic arts
122	studio art	009	ART

123	BIOLOGICAL SCIENCES	015	BIOLOGICAL SCIENCES
124	bacteriology	015	BIOLOGICAL SCIENCES
125	biochemistry	016	biochemistry
126	biology	017	biology
127	biophysics	015	BIOLOGICAL SCIENCES
128	botany	018	botany
129	ecology	019	ecology
130	marine biology	117	oceanography
131	physiology	015	BIOLOGICAL SCIENCES
132	zoology	020	zoology

Note 47 (continued)

133	BUSINESS AND COMMERCE	021	BUSINESS AND COMMERCE
134	accounting	022	accounting
135	advertising	023	advertising
136	business management and administration	024	business management and administration
137	court reporting	131	TRADE AND VOCATIONAL
138	finance and banking	025	finance and banking
139	hotel and restaurant administration	026	hotel and restaurant administration
140	industrial management	027	industrial management
141	marketing	029	sales and retailing
142	real estate	028	real estate
143	sales and retailing	029	sales and retailing
144	secretarial duties	030	secretarial studies
145	transportation and commerce	031	transportation and commerce

146	COMMUNICATIONS	032	COMMUNICATIONS
147	communications	032	COMMUNICATIONS
148	film	032	COMMUNICATIONS
149	journalism	033	journalism
150	radio and television	034	radio and television

151	COMPUTER SCIENCE AND SYSTEMS ANALYSIS	035	COMPUTER SCIENCE AND SYSTEMS ANALYSIS
152	computer science	036	computer science
153	data processing	037	data processing
154	systems analysis	038	systems analysis

155	EDUCATION	039	EDUCATION
156	agricultural education	040	agricultural education
157	art education	041	art education
158	business education	042	business education
159	child development and nursery education	044	elementary education
160	education of exceptional children	043	special education
161	education of the deaf	043	special education
162	education of the mentally retarded	043	special education
163	elementary education	044	elementary education
164	general education	039	EDUCATION
165	health education	045	health education

Note 47 (continued)

166	home economics education	099	HOME ECONOMICS
167	industrial arts education	046	industrial arts education
168	music education	047	music education
169	physical education	048	physical education
170	recreation	048	physical education
171	secondary education	049	secondary education
172	speech and hearing	050	speech and hearing
173	vocational trade and industrial education	046	industrial arts education

174	ENGINEERING	051	ENGINEERING
175	aerospace and aeronautical engineering	052	aerospace and aeronautical engineering
176	agricultural engineering	053	agricultural engineering
177	air-conditioning engineering	054	air-conditioning engineering
178	architectural engineering	055	architectural engineering
179	ceramic engineering	051	ENGINEERING
180	chemical engineering	056	chemical engineering
181	civil engineering	057	civil engineering
182	construction and transportation	051	ENGINEERING
183	drafting	058	drafting
184	electrical engineering	059	electrical engineering
185	engineering aide	051	ENGINEERING
186	engineering design	051	ENGINEERING
187	engineering sciences	051	ENGINEERING
188	industrial and management engineering	060	petroleum engineering
189	industrial labotarory technology	051	ENGINEERING
190	instrumentation technology	051	ENGINEERING
191	materials science	051	ENGINEERING
192	mechanical engineering	061	mechanical engineering
193	metallurgical engineering	062	metallurgical engineering
194	mining and mineral engineering	063	mining and mineral engineering
195	naval architecture and marine engineering	064	naval architecture and marine engineering
196	nuclear technology	065	nuclear technology
197	petroleum engineering	066	petroleum engineering
198	plastics technology	051	ENGINEERING
199	quality control technology	051	ENGINEERING
200	surveying	051	ENGINEERING
201	textile engineering	051	ENGINEERING

202	ENGLISH AND LITERATURE	067	ENGLISH AND LITERATURE
203	creating writing	068	creative writing
204	English	067	ENGLISH AND LITERATURE
205	literature	069	literature
206	speech	070	speech

207	ETHNIC STUDIES	071	ETHNIC STUDIES
208	American Indian studies	071	ETHNIC STUDIES
209	black studies	071	ETHNIC STUDIES
210	Mexican American studies	071	ETHNIC STUDIES
211	Spanish-American studies	071	ETHNIC STUDIES

212	FOREIGN LANGUAGES	072	FOREIGN LANGUAGES
213	Classical languages	073	Classical languages
214	Eastern languages	072	FOREIGN LANGUAGES
215	French	074	French
216	German	075	German
217	Italian	076	Italian
218	linguistics	077	linguistics
219	Russian	078	Russian
220	Spanish	079	Spanish

221	FORESTRY AND CONSERVATION	080	FORESTRY AND CONSERVATION

222	GEOGRAPHY	081	GEOGRAPHY

223	HEALTH AND MEDICAL PROFESSIONS	082	HEALTH AND MEDICAL PROFESSIONS
224	dental assisting	083	dental assisting
225	dental hygiene	084	dental hygiene
226	dental technology	085	dental technology
227	health and safety	086	health and safety
228	laboratory technology	088	medical technology
229	medical assisting	087	medical assisting
230	medical records librarian	082	HEALTH AND MEDICAL PROFESSIONS
231	medical technology	088	medical technology
232	nursing-practical	089	nursing-practical
233	nursing-registered	090	nursing-registered
234	occupational therapy	091	occupational therapy
235	optometry	092	optometry
236	pharmacy	093	pharmacy
237	physical therapy	094	physical therapy
238	predentistry	095	predentistry
239	premedicine	096	premedicine
240	radiology and X-ray technology	097	radiology and x-ray technology

241	HISTORY AND CULTURES	098	HISTORY AND CULTURES
242	American	098	HISTORY AND CULTURES
243	ancient	098	HISTORY AND CULTURES
244	area and regional	098	HISTORY AND CULTURES
245	European	098	HISTORY AND CULTURES
246	HOME ECONOMICS	099	HOME ECONOMICS
247	clothing and textiles	100	clothing and textiles
248	family relations	101	family relations
249	food and nutrition	102	food and nutrition
250	infant and child care	103	infant and child care
251	institution management	104	institution management
252	LIBRARY SCIENCE	039	EDUCATION
253	MATHEMATICS	105	MATHEMATICS
254	statistics	106	statistics
255	MILITARY SCIENCE	107	MILITARY SCIENCE
256	air science	107	MILITARY SCIENCE
257	merchant marine	107	MILITARY SCIENCE
258	military science-army	107	MILITARY SCIENCE
259	naval science	107	MILITARY SCIENCE
260	MUSIC	108	MUSIC
261	composition and theory	108	MUSIC
262	instrumental music	108	MUSIC
263	music history	109	music history
264	voice	108	MUSIC

265	PHILOSOPHY AND RELIGION	110	PHILOSOPHY
266	philosophy	110	PHILOSOPHY
267	religion	111	religion
268	scholastic philosophy	111	religion
269	theology	111	religion

270	PHYSICAL SCIENCES	112	PHYSICAL SCIENCES
271	astronomy	113	astronomy
272	chemistry	114	chemistry
273	earth science	115	earth science
274	geology	116	geology
275	meteorology	112	PHYSICAL SCIENCES
276	oceanography	117	oceanography
277	physical sciences	112	PHYSICAL SCIENCES
278	physics	118	physics

279	PSYCHOLOGY	119	PSYCHOLOGY
280	child psychology	119	PSYCHOLOGY
281	experimental psychology	119	PSYCHOLOGY
282	general psychology	119	PSYCHOLOGY
283	social psychology	119	PSYCHOLOGY

284	SOCIAL SCIENCES	120	SOCIAL SCIENCES
285	anthropology	121	anthropology
286	correction administration	124	police science
287	economics	122	economics
288	fire science	131	TRADE AND VOCATIONAL
289	foreign service	123	international relations
290	industrial relations	027	industrial management
291	international relations	123	international relations
292	police science	124	police science
293	political science	125	political science
294	public administration	126	public administration
295	social work	127	social work
296	sociology	128	sociology

Note 47 (continued)

297	THEATER ARTS	129	DRAMATIC ARTS
298	dance	130	dance
299	drama	129	DRAMATIC ARTS
300	theater arts	129	DRAMATIC ARTS
301	TRADE AND VOCATIONAL	131	TRADE AND VOCATIONAL
302	airline hostess	131	TRADE AND VOCATIONAL
303	automotive maintenance	132	automotive maintenance
304	aviation maintenance	133	aviation maintenance
305	building construction	131	TRADE AND VOCATIONAL
306	carpentry	134	carpentry
307	cosmetology	131	TRADE AND VOCATIONAL
308	mortuary service	131	TRADE AND VOCATIONAL
309	OTHER	135	UNDECIDED AND OTHER
310	UNDECIDED	135	UNDECIDED AND OTHER

Note 47 (continued)

ACT Major Fields of Study Recode List

100	AGRICULTURE, general	001	AGRICULTURE
101	Agricultural Business	002	agriculture economics
102	Agricultural Economics	002	agriculture economics
103	Agricultural and Farm Management (farming and ranching)	005	fish and game, wildlife management
104	Agriculture, Forestry, and Wildlife Technologies	001	AGRICULTURE
105	Agronomy (field crops and crop management)	003	agronomy, field crops
106	Animal Science (husbandry)	004	animal science
107	Fish, Game, and Wildlife Management	005	fish and game, wildlife management
108	Food Science and Technology	006	food science
109	Forestry	080	FORESTRY AND CONSERVATION
110	Horticulture/Ornamental Horticulture	007	horticulture
111	Natural Resources Management (soil conservation)	080	FORESTRY AND CONSERVATION

120	ARCHITECTURE, general	008	ARCHITECTURE
121	Architecture Technology	008	ARCHITECTURE
122	City, Community, and Regional Planning	008	ARCHITECTURE
123	Environmental Design, general	008	ARCHITECTURE
124	Interior Design	013	interior decorating

130	BIOLOGICAL SCIENCES, general	015	BIOLOGICAL SCIENCES
131	Biology	017	biology
132	Biochemistry	016	biochemistry
133	Botany	018	botany
134	Ecology	019	ecology
135	Microbiology	015	BIOLOGICAL SCIENCES
136	Zoology	020	zoology

140	BUSINESS AND COMMERCE, general	021	BUSINESS AND COMMERCE
141	Accounting	022	accounting
142	Banking and Finance	025	finance and banking
143	Business Economics	021	BUSINESS AND COMMERCE
144	Business Management and Administration	024	business management and administration

145	Food Marketing	026	hotel and restaurant administration
146	Hotel and Restaurant Management	026	hotel and restaurant administration
147	Labor and Industrial Relations	027	industrial management
148	Office Management	024	business management and administration
149	Marketing and Purchasing (sales and retailing)	029	sales and retailing
150	Real Estate and Insurance	028	real estate
151	Recreation and Tourism	021	BUSINESS AND COMMERCE
152	Secretarial Studies	030	secretarial studies
153	Transportation and Public Utilities	031	transportation and commerce

160	COMMUNICATIONS, general	032	COMMUNICATIONS
161	Journalism	033	journalism
162	Radio/Television (related to broadcasting)	034	radio and television
163	Advertising	023	advertising

170	COMPUTER AND INFORMATION SCIENCES, general	035	COMPUTER SCIENCE AND SYSTEMS ANALYSIS
171	Computer Programming	036	computer science
172	Information Systems and Sciences	036	computer science
173	Systems Analysis	038	systems analysis
174	Data Processing Technology	037	data processing
175	Computer Operating	037	data processing
176	Data Systems Repair	035	COMPUTER SCIENCE AND SYSTEMS ANALYSIS

180	EDUCATION, general	039	EDUCATION
181	Agricultural Education	040	agricultural education
182	Art Education	041	art education
183	Business, Commerce, and Distributive Education	042	business education
184	Elementary Education	044	elementary education
185	English Education	067	ENGLISH AND LITERATURE
186	Home Economics Education	099	HOME ECONOMICS
187	Industrial Arts, Vocational/Technical Education	046	industrial arts education
188	Mathematics Education	105	MATHEMATICS
189	Music Education	047	music education
190	Physical Education	048	physical education

191	Science Education	039	EDUCATION
192	Secondary Education, general	049	secondary education
193	Social Science Education	039	EDUCATION
194	Special Education	043	special education
195	Speech Education	050	speech and hearing

200	ENGINEERING, general	051	ENGINEERING
201	Aerospace, Aeronautical, and Astronautical	052	aerospace and aeronautical engineering
202	Agricultural Engineering	053	agricultural engineering
203	Architectural Engineering	055	architectural engineering
204	Chemical Engineering	056	chemical engineering
205	Civil Engineering	057	civil engineering
206	Electrical, Electronics, and Communications Engineering	059	electrical engineering
207	Environmental and Ecological Engineering	057	civil engineering
208	Geological Engineering	051	ENGINEERING
209	Industrial and/or Management Engineering	060	industrial and management engineering
210	Mechanical Engineering	061	mechanical engineering
211	Metallurgical and Materials Engineering	062	metallurgical engineering
212	Mining and Mineral Engineering	063	mining and mineral engineering
213	Nuclear Engineering	065	nuclear technology
214	Ocean Engineering	064	naval architecture and marine engineering
215	Petroleum Engineering	066	industrial and management engineering

220	FINE AND APPLIED ARTS, general	009	ART
221	Applied Design (ceramics, weaving, commercial art)	011	commercial art
222	Art (painting, drawing, sculpture)	009	ART
223	Art History and Appreciation	010	art history
224	Dance	130	dance
225	Dramatic Arts (theater arts)	129	DRAMATIC ARTS
226	Music (liberal arts)	108	MUSIC
227	Music (performing, composition, theory)	108	MUSIC
228	Music History and Appreciation	109	music history
229	Photography/Cinematography	014	photography

230	FOREIGN LANGUAGES, general	072	FOREIGN LANGUAGES
231	French	074	French
232	German	075	German
233	Italian	076	Italian
234	Latin	073	Classical Languagues
235	Spanish	079	Spanish
236	Russian	078	Russian

240	HEALTH PROFESSIONS	082	HEALTH AND MEDICAL PROFESSIONS
241	Dentistry	095	predentistry
242	Dental Assistant	083	dental assisting
243	Dental Hygiene	084	dental hygiene
244	Dental Lab Technology	085	dental technology
245	Environmental Health Technologies	086	health and safety
246	Medicine	096	premedicine
247	Medical Assistant or Medical Office Assistant	087	medical assisting
248	Medical or Laboratory Technology	088	medical technology
249	Nursing (Registered)	090	nursing-registered
250	Nursing (licensed practical nurse)	089	nursing-practical
251	Occupational Therapy	091	occupational therapy
252	Optometry	092	optometry
253	Pharmacy	093	pharmacy
254	Physical Therapy	094	physical therapy
255	Public Health	086	health and safety
256	Radiology	097	radiology and x-ray technology
257	X-Ray Technology	097	radiology and x-ray technology
258	Surgical Technology (surgeon's assistant, etc.)	082	HEALTH AND MEDICAL PROFESSIONS
259	Veterinary Medicine	015	BIOLOGICAL SCIENCES

260	HOME ECONOMICS, general	099	HOME ECONOMICS
261	Clothing and Textiles	100	clothing and textiles
262	Consumer Economics and Home Management	101	family relations
263	Family Relations and Child Development	103	infant and child care
264	Foods and Nutrition (including dietetics)	102	food and nutrition
265	Institutional Management	104	institution management

270	LETTERS (Humanities), general	067	ENGLISH AND LITERATURE
271	Classics	073	Classical Languages
272	Comparative Literature	069	literature
273	Creative Writing	068	creative writing
274	English, general	067	ENGLISH AND LITERATURE
275	Linguistics	077	linguistics
276	Literature, English	069	literature
277	Philosophy	110	PHILOSOPHY
278	Religion	111	religion
279	Speech, Debate, Forensic Science	070	speech

280	MATHEMATICS, general	105	MATHEMATICS
281	Applied Mathematics	105	MATHEMATICS
282	Statistics (mathematical and theoretical)	106	statistics

285	PHYSICAL SCIENCE, general	112	PHYSICAL SCIENCES
286	Astronomy	113	astronomy
287	Chemistry	114	chemistry
288	Earth Sciences	115	earth science
289	Geology	116	geology
290	Oceanography	117	oceanography
291	Physics	118	physics

300	COMMUNITY SERVICE, general	127	social work
301	Law Enforcement and Correction (police science)	124	police science
302	Parks and Recreation Management	126	public administration
303	Public Administration	126	public administration
304	Social Work	127	social work
305	Military	107	MILITARY SCIENCE

310	SOCIAL SCIENCES, general	120	SOCIAL SCIENCES
311	Anthropology	121	anthropology
312	Area Studies (American Civilization, American Studies, etc.)	120	SOCIAL SCIENCES
313	Economics	122	economics

314	Ethnic Studies (Asian Studies, Black Studies, Chicano Studies, etc.)	071	ETHNIC STUDIES
315	Geography	081	GEOGRAPHY
316	History	098	HISTORY AND CULTURES
317	International Relations	123	international relations
318	Law (prelaw)	120	SOCIAL SCIENCES
319	Political Science	125	political science
320	Psychology	119	PSYCHOLOGY
321	Sociology	128	sociology
330	TRADE, INDUSTRIAL, AND TECHNICAL, general	131	TRADE AND VOCATIONAL
331	Agricultural Mechanics and Technology	001	AGRICULTURE
332	Air-Conditioning, Refrigeration, and Heating Technology	054	air-conditioning engineering
333	Aeronautical and Aviation Technology	133	aviation maintenance
334	Appliance Repair	131	TRADE AND VOCATIONAL
335	Automobile Body Repair	132	automotive maintenance
336	Automobile Mechanics	132	automotive maintenance
337	Business Machine Maintenance	131	TRADE AND VOCATIONAL
338	Carpentry and Construction	134	TRADE AND VOCATIONAL
339	Drafting/Engineering Graphics	058	drafting
340	Electricity and Electronics	131	TRADE AND VOCATIONAL
341	Engineering Technology - Aeronautical	051	ENGINEERING
342	Engineering Technology - Automotive	051	ENGINEERING
343	Engineering Technology - Civil	051	ENGINEERING
344	Engineering Technology - Industrial/Manufacturing	051	ENGINEERING
345	Engineering Technology - Mechanical	061	mechanical engineering
346	Graphic Arts (printing, typesetting)	012	graphic arts
347	Heavy Equipment Operating	131	TRADE AND VOCATIONAL
348	Dry Cleaning, Laundry, and Clothing Technology	131	TRADE AND VOCATIONAL
349	Industrial Arts	131	TRADE AND VOCATIONAL
350	Leatherworking (shoe repair, etc.)	131	TRADE AND VOCATIONAL
351	Machinework (tool and die, etc.)	131	TRADE AND VOCATIONAL
352	Masonry (brick, cement, stone, etc.)	131	TRADE AND VOCATIONAL
353	Metalworking	131	TRADE AND VOCATIONAL
354	Plumbing and Pipefitting	131	TRADE AND VOCATIONAL
355	Radio/TV Repair	131	TRADE AND VOCATIONAL
356	Small-Engine Repair	131	TRADE AND VOCATIONAL
357	Upholstering	131	TRADE AND VOCATIONAL
358	Watch Repair and other Instrument Maintenance and Repair	131	TRADE AND VOCATIONAL
359	Welding	131	TRADE AND VOCATIONAL
360	Woodworking (cabinetmaking, millwork)	131	TRADE AND VOCATIONAL

370	GENERAL STUDIES	135	UNDECIDED & OTHER
000	Undecided		

END OF NOTE 47

Note 48 The variable is a collapsed set of values from college major field of study (col. 616-618). Each of the values listed on the SAT and ACT "major field of study" list was first recoded by the method for college major field of study and then collapsed into the 27 major categories of fields. For codes, see pages 25-28.

Note 49 Although both the SAT and ACT included five response categories for the advanced placement items, only four of the categories were common to both. Four variables were created as shown:

SAT

18. **Do you plan to apply for placement in advanced courses, course credit, or exemption from required courses in certain fields of college study? Mark the letter for each field in which you plan to apply.**

(A) English
(B) Mathematics
(C) Foreign Languages
(D) Sciences
(E) History

ACT

Advanced Placement, Accelerated or Honors Courses

While in high school, I was enrolled in advanced placement, accelerated or honors courses in the following areas. Use the responses below to answer all the items in this group.

Yes .... Y
No .... N

94. English
95. Mathematics
96. Social studies
97. Natural sciences
98. Foreign language

SAT Item	ACT Item	Created Variables
A	94	English
B	95	Mathematics
C	98	Foreign language
D	97	Science

Note 50 Values for SAT were recoded as follows

SAT

6. How would you compare your achievement in subjects taken since beginning ninth grade with that of the other students in your high school class?

(A) Highest tenth } top fifth
(B) Second tenth }
(C) Second fifth
(D) Middle fifth
(E) Fourth fifth
(F) Lowest fifth

1 = lowest fifth	1 = bottom quarter
2 = fourth fifth	2 = middle half
3 = middle fifth	2 = middle half
4 = second fifth	2 = middle half
5 = second tenth	3 = top quarter
6 = highest tenth	3 = top quarter

Values for ACT were recoded as follows:

ACT

81. My class rank in high school is (was)(If you are not sure, give your best estimate.)

top quarter 1
second quarter 2
third quarter 3
fourth quarter 4

1 = top quarter	3 = top quarter
2 = second quarter	2 = middle half
3 = third quarter	2 = middle half
4 = fourth quarter	1 = bottom quarter

No Note 51

No Note 52

Note 53

This is a dummy variable. If the first choice college in 11th grade is the same as the first choice in the 12th grade, then the value 2=yes is used. Otherwise, the value 1=no is used.

Note 54

This is a dummy variable. If the first choice college in the 11th grade was among one of the possible 6 choices in the 12th grade, then the value 2=yes is used. Otherwise, the value 1=no is used.

Note 55

This is a dummy variable. If at least one of the 11th grade choices is given as one of the 12th grade choices, the value 2=yes is used.

Note 56

This is a dummy variable. If both of the 11th grade choices were given as 12th grade choices, the value 2=yes is assigned. Otherwise 1=no.

No Note 57

Note 58

In order to be included in the weighting scheme, the subject could not be currently enrolled in postsecondary education at the time of testing and had to be residing in the United States.

Note 59

For each student's home zip code, thirteen different measures of the local higher education environment were constructed. The principal rationale for computing these measures was the expectation that the student's decisions about what kind of college to attend and where would be affected by the proximity of various types of public and private institutions. The availability of various types of public institutions would be expected to affect decision making only within state boundaries, since students generally do not cross state boundaries to attend public institutions or, if they do, the proximity of the institution is not expected to be as important a factor as in the case of public institutions located within the states. Consequently, the measures involving public institutions were confined to the state within which the student resided. Only the District of Columbia presented problems with measures of public institutions, given that some of the "District of Columbia" zip codes are actually located in suburban Maryland. Thus, proximity measures for public institutions in Washington, D.C. include a few public institutions in nearby Maryland. Otherwise, all measures of public institutions involve only those institutions located within the student's home state. Measures of private institutions, on the other hand, include all private institutions located within the student's home state and all contiguous states. Two states with only the corners touching were considered contiguous as well as all states with common boundaries. Hawaii and Alaska, of course, have no contiguous states.

Final decisions about how to construct the various proximity measures were made by first taking two states with contrasting types of higher educational systems -- Massachusetts and California -- and by plotting various proximity measures against students' decisions such as choosing a public versus private college, a two-year versus four-year college, and so forth. The final thirteen measures were chosen primarily on the basis of how well they differentiated students according to these various choice processes. Particular attention was given to students with relatively high scores on college admissions tests (SAT composite of 1150 or ACT equivalent), since such students would presumably be eligible for admission to a wider range of institutions and therefore be more influenced by proximity variables.

The thirteen are described separately below:

1. Distance to nearest public two-year college (1-999 miles; more than 999 recoded to 999).

2. Distance to nearest public four-year college (1-999 miles).

3. Distance to nearest low selectivity public university (prestige less than 5 (see page 18)). The distinction between low and high (see below) selectivity for public universities was considered important, given that students of moderate ability will probably not be eligible for admission to a high selectivity university. Thus, it would be expected that the importance of proximity would vary by the selectivity of the institution. A

similar rationale was involved in sorting out private institutions by selectivity (below).

4. Distance to nearest high selectivity public university (prestige greater than 5, or prestige equals 5 and selectivity greater than 1020).

5. Distance to nearest public black college (1-999 miles). This measure would be expected to have an impact on decision making among black students.

6. Number of private low selectivity colleges within 25 miles (selectivity less than 1050) 1-9 (10 or more coded as 9).

7. Number of private medium selectivity colleges within 25 miles (selectivity between 1050 and 1174) (1-9).

8. Number of private high selectivity colleges within 25 miles (selectivity equal to or greater than 1175) (1-9).

9. Distance to nearest private black college (1-999 miles).

10. Distance to nearest low selectivity Catholic college (selectivity less than 1050) (1-999 miles).

11. Distance to nearest high selectivity Catholic college (selectivity equal to or greater than 1050) (1-999 miles).

12. Number of low selectivity Protestant colleges within 25 miles (selectivity less than 1050) (1-9; recode 10 more to 9).

13. Number of high selectivity Protestant colleges within 25 miles (selectivity equal to or greater than 1050) (1-9).

Note 60

Each of the variables in columns 712 to 779 is measured at the state level (i.e. the student's home state). For example, Percent unemployed (cols. 712-715) gives the unemployment rate for the student's home state. All measures are for fiscal year 1973-1974.

Sources of the measures:

1. Bureau of Postsecondary Education, Factbook: Summary of Program Information through Fiscal Year 1974.
2. National Assocaition of State Student Aid Programs, Annual Report, 1973 through 1974.
3. U.S. Department of Commerce, Statistical Abstract of the U.S., 1975.
4. U.S. Manpower Administration, Manpower Report of the President Including Reports of the U.S. Department of Labor and the U.S. Department of Health, Education and Welfare, 1974.

Appendix D

SISFAP Study A
Documentation
12th Grade Freshmen
Longitudinal File

Introduction

This longitudinal file was developed as part of a major national study of the impact of financial aid programs conducted by the Higher Education Research Institute under contract with the U.S. Office of Education, Office of Planning, Budgeting, and Evaluation. The longitudinal data cover two points in time: the middle of the senior year in secondary school (academic year 1974-1975) and the beginning of the initial postsecondary year (Fall, 1975). Twelfth grade data were obtained from two sources: the Admissions Testing Program (ATP) of the College Entrance Examination Board, conducted by the Educational Testing Program (ACT). Both the ATP and ACT assessments involve a college admissions test and a personal data questionnaire. Student data at the time of entry into postsecondary education (Fall, 1975) were obtained from the Cooperative Institutional Research Program (CIRP) conducted by the Laboratory for Research in Higher Education at the University of California, Los Angeles under support from the American Council on Education.

The data file is arranged in four parts: (1) CIRP entering freshmen data are in columns 1-665; (2) twelfth grade data from the ATP or ACT are in columns 666-1173; (3) population weights are in columns 1174-1188; and (4) data describing the higher education environment of the students home zip code are contained in columns 1189-1217. The length of the file has been increased substantially by including in each student's record 62 columns of descriptive data for each of ten colleges (six from the 12th grade and four from the CIRP). The four colleges from the CIRP include the student's actual college of entry and up to three of the student's next-most-preferred colleges; the 12th grade colleges include up to six of the student's preferred colleges (the ones to which test scores were to be sent) from either the ATP or ACT assessments.

Twelfth grade data from the ATP and ACT, including admissions test scores as well as background items from the questionnaires, have been converted to a common scale. Details of these conversion procedures are contained in a series of notes at the end of the documentation (pp. 48-88).

The file contains a number of blank fields which should be ignored. They have been retained in order to maintain comparability of data fields across different versions of this file as it was developed.

Overall design of the file was under the direction of Alexander W. Astin. James W. Henson was responsible for coordinating the major technical aspects of file development. C.E. Christian carried responsibility for converting ACT and ATP data to a common form. Gerald T. Richardson and Paul E. Hemond did most of the systems design and programming.

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TAPE LAYOUT SHEET
HERI-SISFAP 12th grade
freshman file
Page 1 of 24
CIRP Data

CHARACTER
POSITION

1 Begin 1975 CIRP Freshman Survey Data
2
3
4
5
6
7
8
9
10
11
12 BLANK
13
14
15
16
17
18
19
20
21
22
23

Note: See attached CIRP
questionnaire (pp 47a-47d)
for exact working of items
and missing data codes

24 Sex (1=male, 2=female)

25 Veteran Status (1=no, 2=yes)

26 Age (1=16 or less, 2=17, 3=18, 4=19, 5=20, 6=21, 7=22, 8=23-25
27 9=26-29, 10=30 or older)

28 Yr. graduated from high school See page 25 (6 categories)

29 High school program (1=college prep, 2=other)

30 High school grades (8=A, A+, 7=A-, 6=B+, 5=B, 4=B-, 3=C+, 2=C, 1=D)

31 Mathematical skells
32 Reading and composition
33 Foreign languages
34 Science
35 History, social sciences
36 Vocational skills
37 Music and artistic skills
38 Study habits

How well did your high school prepare
you in each of these areas?
(3=very well, 2=fairly well, 1=poorly)

39 Status (2=full-time, 1=part-time)

40 Previous credit courses at this institution (2=yes, 1=no)

41 No
42 Yes, at junior college or community college
43 Yes, at four-year college or university
44 Yes, at other postsecondary school

Prior attendance for credit
See page 25
(2=checked, 1=not checked)

45 No
46 Yes, at junior college or community college
47 Yes, at four-year college or university
48 Yes, at other postsecondary school

Prior attendance not for
credit See page 25
(2=checked, 1=not checked)

49 Miles, college to home (1=5 or less; 2=6-10, 3=11-50, 4=51-100, 5=101-500, 6=500 up

50 Financial need

CHARACTER
POSITION

51 Academic talent
52 Athletic talent
53 Other special talents

Reasons for receiving financial aid
(3=major reason, 2=minor reason,
1=not a reason)

54 Choice of college (3=first choice, 2=second choice, 1=less than second)

55 Number of other colleges applied to (1=none, 2=1, 3=2, 5=4, 6=5, 7=6 or more)

56 Number of acceptances (1=none, 2=1, 3=2, 4=3, 5=4, 6=5, 7=6 or more)

57 Most preferred college
58 Second most preferred college
59 Third most preferred college

Accepted for admission to these colleges
(2=yes, 1=no)

60 Parental, or family aid, or gifts
61 Basic educational opportunity grant
62 Supplemental educational opportunity grant
63 College work-study grant
64 State scholarship or grant
65 Local or provate scholarship or grant
66 Fed. guaranteed student loan
67 National direct student loan
68 Other loan
69 Full-time work
70 Part-time work or summer work (other than above)
71 Savings
72 Spouse
73 Your G.I. benefits
74 Your parents' G.I. benefits
75 Social security dependent's benefits
76 Other

1=none
2=$1-499
3=$500-999
4=$1000-1999
5=$2000-4000
6=Over $4000

77 Total income independent of your parents (8 categories) See page 25

78 Financially independent of parents this year
79 Financially independent of parents last year (2=yes, 1=no)

80 Marital Status (1=not married, 2=married, live w/ spouse, 3=married, not live w/ spouse

81 Took S.A.T.
82 Took A.C.T.
83 Took P.S.A.T.

Tests taken
(2=yes, 1=no, 3=don't remember)

84 Relatives wanted me to come
85 Wanted to live away from home
86 Teacher advised me
87 College has good academic reputation
88 Offered financial assistance
89 Someone who had been here before advised me
90 Special education programs offered
91 This college has low tuition
92 My guidance counselor advised me
93 I wanted to live at home
94 I could not get a job
95 A friend suggested attending
96 A college representative recruited me
97 It will help me get a better job

Reasons for attending this college:
3=very important
2=somewhat important
1=not important

98 Highest degree planned, any time
99 Highest degree planned, this college (9 categories) See page 25

100 Where plan to live (6 categories) See page 25

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freshman file
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CIRP Data

CHARACTER POSITION		
101	Where prefer to live	(6 categories) See page 25
102	White/Caucasian	Race (2=yes, 1=no)
103	Black/Negro/Afro-American	
104	American Indian	
105	Oriental	
106	Mexican-American/Chicano	
107	Puerto-Rican-American	
108	Other	
109	Concern about financing education	(1=none, 2=some, 3=major concern)
110	Political Views	(5=far left, 4=liberal, 3=middle, 2=conservative, 1=far right)
111 112	Best estimate of parents' income last year	(14 categories) See page 25
113	Father's education	(8 categories) See page 25
114	Mother's education	
115 116	Your probable future occpuation	(62 categories) See pp 25-26
117 118	Your father's current occupation	
119 120	Your mother's current occupation	
121 122	Your current religious preference	(17 categories) See pp 25-26
123 124	Your father's current religious preference	
125 126	Your mother's current religious preference	
127	Fed. gov't. not doing enough to control pollution	4=agree strongly 3=agree somewhat 2=disagree somewhat 1=disagree strongly
128	Fed. gov't. not doing enough to protect consumer	
129	More state and federal money for private colleges and universities	
130	Fed. gov't. should help students w/grants, not loans	
131	Too much concern for criminal's rights	
132	People should not obey laws that violate personal values	
133	As long as they work hard, people should be paid equally	
134	Activities of married women are best confined to the home	
135	Couple should live together before marriage	
136	Parents should be discouraged from having large families	
137	Sex is OK is two people like each other	
138	Women should receive same opportunities and salery	
139	Wealthy people should pay more taxes	
140	Marijuana should be legalized	
141	Large political contributions should be outlawed	
142	An individual can do little to change society	
143	Young people these days are more idealistic	
144	Young people understand more about sex	
145	College officials can regulate student behavior off campus	
146	Faculty promotions should depend partly on student evaluations	
147	College grades should be abolished	
148	Colleges would be improved is organized sports were de-emphasized	
149	Student publications should be cleared by college officials	
150	College officials can ban persons w/extreme views from speaking	

CHARACTER POSITION		
151	Give students from disadvantaged backgrounds preferred treatment	
152	Adopt open admissions	Same as
153	Keep standards up, even with open admissions	(127-150)
154	Fed. gov't. should do more to discourage energy consumption	
155	Students can demonstrate to keep speakers off campus	
156 157	Undergraduate major (77 categories) See pp 27-29	
158	Becoming accomplished in performing arts	
159	Becoming authority in my field	
160	Obtaining recognition from colleagues for contributions	
161	Influencing the political structure	
162	Influencing social values	
163	Raising a family	
164	Having administrative responsibility for work of others	
165	Being well-off financially	4=very essential
166	Helping others who are in difficulty	3=very important
167	Making a theoretical contribution to science	2=somewhat important
168	Writing original works	1=not important
169	Creating artistic work	
170	Being successful in a business of my own	
171	Becoming involved in programs to clean up the environment	
172	Developing a meaningful philosophy of life	
173	Participating in a community action program	
174	Keeping up to date with political affairs	
175	Change major field	
176	Change career choice	
177	Fail one or more courses	
178	Graduate with honors	Best guess as to chances:
179	Be elected to a student office	
180	Join in a social fraternity, sorority, or club	4=very good chance
181	Live in a coeducational dorm	3=some chance
182	Live in a commune while in college	2=very little chance
183	Be elected to an academic honor society	1=no chance
184	Make at least a "B" average	
185	Need extra time to complete your degree requirements	
186	Need tutoring in some courses	
187	Have to work at an outside job during college	
188	Seek vocational counseling	
189	Seek individual counseling on personal problems	
190	Get a bachelor's degree	
191	Drop out of this college temporarily	
192	Drop out permanently	
193	Transfer to another college before graduating	
194	Be satisfied with your college	
195	Find a job after graduation in your field	
196	Get married while in college	
197	Get married within a year after college	
198	Permission to send college data with I.D. (2=yes, 1=no)	
199 200	BLANK	

CHARACTER POSITION		
201		
202		
203		
204		
205		BLANK
206		
207		
208		
209		
210		
211		
212		
213		
214		
215	Artist/performer	*** BEGIN GENERATED CIRP VARIABLES*** Student's probable career collapsed (2=yes, 1=no)
216	Businessman	
217	Clergyman	
218	College teacher	
219	Doctor (M.D., D.D.S.)	
220	Educator (secondary)	
221	Elementary teacher	
222	Engineer	
223	Farmer or Forester	
224	Health professional	
225	Lawyer	
226	Nurse	
227	Research Scientist	
228	Other choice	
229	Undecided	
230	Artist/performer	Father's current occupation collapsed (2=yes, 1=no)
231	Businessman	
232	Clergyman	
233	College teacher	
234	Doctor (M.D., D.D.S.)	
235	Educator (secondary)	
236	Elementary teacher	
237	Engineer	
238	Farmer of Forester	
239	Health professional	
240	Lawyer	
241	Military career	
242	Research scientist	
243	Skilled worker	
244	Semiskilled-unskilled worker	
245	Unemployed	
246	Other	
247	Artist/performer	
248	Businessman	
249	clergyman	
250	College teacher	

CHARACTER POSITION		
251	Doctor (M.D., D.D.S.)	Mother's occupation collapsed (2=yes, 1=no)
252	Educator (secondary)	
253	Elementary teacher	
254	Engineer	
255	Farmer or Forester	
256	Health professional	
257	Lawyer	
258	Military career	
259	Research scientist	
260	Skilled worker	
261	Semiskilled worker	
262	Unemployed	
263	Other	
264	Agriculture	Major field collapsed (2=yes, 1=no)
265	Biological science	
266	Business	
267	Education	
268	Engineering	
269	English	
270	Health professions	
271	History and political science	
272	Humanities	
273	Fine Arts	
274	Mathematics and statistics	
275	Physical sciences	
276	Social sciences	
277	Other fields (technical)	
278	Other fields (nontechnical)	
279	Undecided	
280	Response to previous attendance (at any other institution) Q.10 (2=yes, 1=no)	
281	Response to race -- Q.26 (2=yes, 1=no)	
282	Norms status (1=first time, full-time, 2-first time, part time, 3=nonprofessional)	
283	Financial aid received this year, actual grants, Q.12	
284		
285		
286		
287	Financial aid received this year, loans, Q.12	
288		
289		
290		
291	Financial aid received this year, work-study, Q.12	
292		
293		
294		
295	Other college student applied to (ACE colleg ID) Q.17	
296		
297		
298		
299	Accepted to college one for admission (2=yes, 1=no)	
300	Financial aid offered first year, grants, Q.17	(continued)

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CIRP Data

CHARACTER POSITION	
301	Financial aid offered first year, grant, Q. 17
302	
303	
304	Financial aid offered first year, loan, Q. 17
305	
306	
307	
308	Financial aid offered first year, work-study, Q. 17
309	
310	
311	
312	Other college sutdent applied to for admission (ACE college ID), Q. 17
313	
314	
315	
316	Accepted to college #2 for admission (2=yes, 1=no)
317	Financial aid offered first year, grants, Q. 17
318	
319	
320	
321	Financial aid offered first year, loans, Q. 17
322	
323	
324	
325	Financial aid offered first year, work-study, Q. 17
326	
327	
328	
329	Other college student applied to for admission (ACE college ID) Q. 17
330	
331	
332	
333	Accepted to college #3 for admission (2=yes, 1=no)
334	Financial aid offered first year, grants, Q. 17
335	
336	
337	
338	Financial aid offered first year, loans, Q. 17
339	
340	
341	
342	Financial aid offered first year, work-study, Q. 17
343	
344	
345	
346	Entered proprietary school in 1975 2=yes 1=no No missing data
347	
348	BLANK
349	
350	

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CIRP Data

CHARACTER POSITION				
351				BLANK
352	Stratification cell			See page 29
353				
354				
355				BLANK
356				
357				
358				
359	Male Wgt			See page 29
360				
361				
362				
363	Female Wgt			See page 29
364				
365				
366				
367	Edit Q 17-1	2=yes	1=no	See page 46
368	Edit Q 17-2	2=yes	1=no	See page 46
369	Edit Q 17-3	2=yes	1=no	See page 46
370	Edit Q 17	2=yes	1=no	See page 46
371	Edit Q 18	2=yes	1=no	See page 46
372	Total Financial Aid, Question 12			
373				
374				
375				
376	Total Financial Aid, Question 17-1			
377				
378				
379				
380	Total Financial Aid, Question 17-2			
381				
382				
383				
384	Total Financial Aid, Question 17-3			
385				
386				
387				
388	Total Aid, Grants, Question 18			
389				
390				
391				
392	Total Aid, Loans, Question 18			
393				
394				
395				
396	Total Aid, Workstudy, Question 18			
397				
398				
399				
400	Total Aid, Question 18			

CHARACTER
POSITION

401	Total Aid, Question 18 (continued)			
402				
403				
404	Total Imputations			
405				
406				
407	Number of College IDs in CIRP record (see note 1)			
408	BEGIN DATA FOR COLLEGES ON CIRP			
409				
410		Institutional data for college attended Fall '75		
411	BLANK	(no missing data for institutional variables)		
412		(see note 2)		
413				
414				
415				
416				
417				
418	State	58 categories	see page 30	
419				
420	Region	9 categories	see page 31	
421				
422				
423	BLANK			
424				
425				
426	Race of Institution	1=white; 2=black		
427	Control	1=public; 2-private		
428	Type	1=univ; 1=other 4-yr; 3=other 2-yr; 4=4-yr. branch of		
429	17 Category Institution Code	multiuniversity; 5=2-yr branch of multiuniversity;		
430	(see note 3 and page 32)	6=2-yr branch of multi-four-year institution		
431	Prestige	1-9 (see note 4 and page 32)		
432	Selectivity divided by ten	(Mean institutional SAT V+M or equivalent		
433	rounded to three digits:	E.G., 1459=150) (see note 5)		
434				
435	Selectivity code	1-9	(see note 6)	
436	Enrollment code	1-9	(see note 7)	see codes,
437	Percent women enrolled code	1-9	(see note 8)	page 33
438	Percent graduate students enrolled code	1-9	(see note 9)	
439	Education and General expenditures per student code		(see note 10)	see codes,
440	Library expenditures per student code	1-9	(see note 11)	page 34
441	Value of assets per student code	1-9	(see note 12)	
442	Student/faculty ratio code	1-9	(see note 13)	
443	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136)			
444	(see note 14)			
445				
446	Tuition and fees code	1-9	(see note 15 and page 35)	
447	Percent BAs in biological sciences (agriculture and bio sci) (see note 16)			
448				
449	Percent BAs in vocational areas (architecture, communications, health professions,			
450	home economics, library sciences (math and physical science) (see note 16)			

CHARACTER
POSITION

451 452	Percent BAs in social sciences (area studies, psychology, social science, law) (see note 16)	
453 454	Percent BAs in physical sciences (math and physical science)	(see note 16)
455 456	Percent BAs in humanities (fine arts, foreign languages, letters, theology) (see note 16)	
457 458	Percent BAs in engineering (computer science, engineering)	(see note 16)
459 460	Percent BAs in business (business only)	(see note 16)
461 462	Percent BAs in education (education only)	(see note 16)
463	Highest degree offered 1-7	(see page 35)
464 465	Affiliation	(see note 17 and page 36)
466 467 468 469	Distance in miles from home to this institution 1=zero or one mile 0=missing data (if zip code not valid) (see note 18)	
470 471 472 473 474 475	BLANK	(see note 2) Institutional data for other college applied to #1 (most preferred alternate)
476 477 478 479	BLANK	
480 481	State	58 categories see page 30
482	Region	9 categories see page 31
483 484 485 486 487	BLANK	
488	Race of Institution	1=white; 2=black
489	Control	1=public; 2-private
490	Type	1=univ; 1=other 4-yr; 3=other 2-yr; 4=4-yr. branch o
491 492	17 Category Institution Code (see note 3 and page 32)	multiuniversity; 5=2-yr branch of multiuniversity; 6=2-yr branch of multi-four-year institution
493	Prestige	1-9 (see note 4 and page 32)
494 495 496	Selectivity divided by ten rounded to three digits:	(Mean institutional SAT V+M or equivalent E.G., 1459=150) (see note 5)
497	Selectivity code	1-9 (see note 6) see codes, page 33
498	Enrollment code	1-9 (see note 7) see codes, page 33
499	Percent women enrolled code	1-9 (see note 8) see codes, page 33
500	Percent graduate students enrolled code	1-9 (see note 9)

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CIRP Data

CHARACTER POSITION	
501	Education and General expenditures per student code (see note 10) see codes, page 34
502	Library expenditures per student code 1-9 (see note 11)
503	Value of assets per student code 1-9 (see note 12)
504	Student/faculty ratio code 1-9 (see note 13)
505	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136) (see note 14)
506	
507	
508	Tuition and fees code 1-9 (see note 15 and page 35)
509	Percent BAs in biological sciences (agriculture and bio sci) (see note 16)
510	
511	Percent BAs in vocational areas (architecture, communications, health professions, home economics, library sciences (math and physical science) (see note 16)
512	
513	Percent BAs in social sciences (area studies, psychology, social science, law) (see note 16)
514	
515	Percent BAs in physical sciences (math and physical science) (see note 16)
516	
517	Percent BAs in humanities (fine arts, foreign languages, letters, theology) (see note 16)
518	
519	Percent BAs in engineering (computer science, engineering) (see note 16)
520	
521	Percent BAs in business (business only) (see note 16)
522	
523	Percent BAs in education (education only) (see note 16)
524	
525	Highest degree offered 1-7 (see page 35)
526	Affiliation (see note 17 and page 36)
527	
528	Distance in miles from home to this institution
529	1=zero or one mile
530	0=missing data (if zip code not valid) (see note 18)
531	
532	BLANK
533	
534	
535	
536	
537	
538	BLANK
539	
540	
541	
542	State 58 categories see page 30
543	
544	Region 9 categories see page 31
545	BLANK
546	
547	
548	
549	
550	Race of Institution 1=white; 2=black

Institutional data for other college applied to #2 (second most preferred alternate)
(see note 2)

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CIRP Data

CHARACTER POSITION	Item	Codes	See codes
551	Control	1=public; 2-private	
552	Type	1=univ; 1=other 4-yr; 3=other 2-yr; 4=4-yr. branch of multiuniversity; 5=2-yr branch of multiuniversity; 6=2-yr branch of multi-four-year institution	
553 554	17 Category Institution Code (see note 3 and page 32)		
555	Prestige	1-9 (see note 4 and page 32)	
556 557 558	Selectivity divided by ten rounded to three digits:	(Mean institutional SAT V+M or equivalent E.G., 1459=150) (see note 5)	
559	Selectivity code	1-9 (see note 6)	see codes, page 33
560	Enrollment code	1-9 (see note 7)	
561	Percent women enrolled code	1-9 (see note 8)	
562	Percent graduate students enrolled code	1-9 (see note 9)	
563	Education and General expenditures per student code	(see note 10)	see codes, page 34
564	Library expenditures per student code	1-9 (see note 11)	
565	Value of assets per student code	1-9 (see note 12)	
566	Student/faculty ratio code	1-9 (see note 13)	
567 568 569	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136) (see note 14)		
570	Tuition and fees code	1-9 (see note 15 and page 35)	
571 572	Percent BAs in biological sciences	(agriculture and bio sci) (see note 16)	
573 574	Percent BAs in vocational areas	(architecture, communications, health professions, home economics, library sciences (math and physical science) (see note 16)	
575 576	Percent BAs in social sciences	(area studies, psychology, social science, law) (see note 16)	
577 578	Percent BAs in physical sciences	(math and physical science) (see note 16)	
579 580	Percent BAs in humanities	(fine arts, foreign languages, letters, theology) (see note 16)	
581 582	Percent BAs in engineering	(computer science, engineering) (see note 16)	
583 584	Percent BAs in business	(business only) (see note 16)	
585 586	Percent BAs in education	(education only) (see note 16)	
587	Highest degree offered 1-7	(see page 35)	
588 589	Affiliation	(see note 17 and page 36)	
590 591 592 593	Distance in miles from home to this institution 1=zero or one mile 0=missing data (if zip code not valid)	(see note 18)	
594 595 596 597 598 599	BLANK	Institutional data, third most preferred alternate) (see note 2)	

CHARACTER POSITION			
600 601 602 603	BLANK		
604 605	State	58 categories	see page 30
606	Region	9 categories	see page 31
607 608 609 610 611	BLANK		
612	Race of Institution	1=white; 2=black	
613	Control	1=public; 2-private	
614	Type	1=univ; 1=other 4-yr; 3=other 2-yr; 4=4-yr. branch of multiuniversity; 5=2-yr branch of multiuniversity; 6=2-yr branch of multi-four-year institution	
615 616	17 Category Institution Code (see note 3 and page 32)		
617	Prestige	1-9 (see note 4 and page 32)	
618 619 620	Selectivity divided by ten rounded to three digits:	(Mean institutional SAT V+M or equivalent E.G., 1459=150) (see note 5)	
621	Selectivity code	1-9	(see note 6)
622	Enrollment code	1-9	(see note 7) see codes,
623	Percent women enrolled code	1-9	(see note 8) page 33
624	Percent graduate students enrolled code	1-9	(see note 9)
625	Education and General expenditures per student code		(see note 10) see codes,
626	Library expenditures per student code	1-9	(see note 11) page 34
627	Value of assets per student code	1-9	(see note 12)
628	Student/faculty ratio code	1-9	(see note 13)
629 630 631	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136) (see note 14)		
632	Tuition and fees code	1-9	(see note 15 and page 35)
633 634	Percent BAs in biological sciences (agriculture and bio sci) (see note 16)		
635 636	Percent BAs in vocational areas (architecture, communications, health professions, home economics, library sciences (math and physical science) (see note 16)		
637 638	Percent BAs in social sciences (area studies, psychology, social science, law) (see note 16)		
639 640	Percent BAs in physical sciences (math and physical science) (see note 16)		
641 642	Percent BAs in humanities (fine arts, foreign languages, letters, theology) (see note 16)		
643 644	Percent BAs in engineering (computer science, engineering) (see note 16)		
645 646	Percent BAs in business (business only) (see note 16)		
647 648	Percent BAs in education (education only) (see note 16)		
649	Highest degree offered 1-7 (see page 35)		

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CIRP Data Begin ATP-ACT Data

CHARACTER POSITION		
650	Affiliation (see note 17 and page 36)	
651		
652	Distance in miles from home to this institution	
653	1=zero	
654	0=missing data (if zip code not valid) (see note 18)	
655		
656	Mean selectivity of institutions in CIRP record divided by 100 4-16	
657	(see note 19)	
658	Mean coded enrollment of institutions in CIRP record (F2.1) (see note 20)	
659		
660	Mean tuition and fees of institutions in CIRP record divided by 100 (see note 21)	
661		
662		
663	Mean distance from home to college of institution in CIRP record (see note 22)	
664		
665	END CIRP DATA	
666	Sex 1=male, 2=female	BEGIN ATP AND ACT DATA-12th GRADE
667	BLANK	
668		
669		
670		
671		
672		
673		
674		
675	Educational level at time 12th grade test taken 1=jr., 2=sr., 3=col. st., 4=other (see note 24)	
676	Home state code (see page 38)	
677		
678	BLANK	
679		
680		
681		
682		
683	Number of college choices in 12th grade record; coded 0-6 (see note 26) zero is a valid number-no missing data	
684	BLANK	BEGIN COLLEGE CHOICE DATA
685		
686		College Choice #1, institutional data (note 26A)
687		
688		
689		
690	BLANK	
691		
692		
693		
694	State 58 categories see page 30	
695		
696	Region 9 categories see page 31	
697	BLANK	
698		
699		

CHARACTER
POSITION

701
702 Race of Institution 1=white; 2=black
703 Control 1=public; 2-private
704 Type 1=univ; 1=other 4-yr; 3=other 2-yr; 4=4-yr. branch of
705 17 Category Institution Code multiuniversity; 5=2-yr branch of multiuniversity;
706 (see note 3 and page 32) 6=2-yr branch of multi-four-year institution
707 Prestige 1-9 (see note 4 and page 32)
708 Selectivity divided by ten (Mean institutional SAT V+M or equivalent
709 rounded to three digits: E.G., 1459=150) (see note 5)
710
711 Selectivity code 1-9 (see note 6)
712 Enrollment code 1-9 (see note 7) see codes,
713 Percent women enrolled code 1-9 (see note 8) page 33
714 Percent graduate students enrolled code 1-9 (see note 9)
715 Education and General expenditures per student code (see note 10) see codes,
716 Library expenditures per student code 1-9 (see note 11) page 34
717 Value of assets per student code 1-9 (see note 12)
718 Student/faculty ratio code 1-9 (see note 13)
719 Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136)
720 (see note 14)
721
722 Tuition and fees code 1-9 (see note 15 and page 35)
723 Percent BAs in biological sciences (agriculture and bio sci) (see note 16)
724
725 Percent BAs in vocational areas (architecture, communications, health professions,
726 home economics, library sciences (math and physical science) (see note 16)
727 Percent BAs in social sciences (area studies, psychology, social science, law)
728 (see note 16)
729 Percent BAs in physical sciences (math and physical science) (see note 16)
730
731 Percent BAs in humanities (fine arts, foreign languages, letters, theology)
732 (see note 16)
733 Percent BAs in engineering (computer science, engineering) (see note 16)
734
735 Percent BAs in business (business only) (see note 16)
736
737 Percent BAs in education (education only) (see note 16)
738
739 Highest degree offered 1-7 (see page 35)
740 Affiliation (see note 17 and page 36)
741
742 Distance in miles from home to this institution
743 1=zero or one mile
744 0=missing data (if zip code not valid) (see note 18)
745
746
747 college choice #2, institutional
748 BLANK data (note 26A)
749
750
751

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ATP-ACT data

CHARACTER POSITION				
752				
753				
754	BLANK			
755				
756	State	58 categories	see page 30	
757				
758	Region	9 categories	see page 31	
759				
760	BLANK			
761				
762				
763				
764	Race of Institution		1=white; 2=black	
765	Control		1=public; 2-private	
766	Type	1=univ; 1=other 4-yr; 3=other 2-yr; 4=4-yr. branch of		
767	17 Category Institution Code	multiuniversity; 5=2-yr branch of multiuniversity;		
768	(see note 3 and page 32)	6=2-yr branch of multi-four-year institution		
769	Prestige	1-9 (see note 4 and page 32)		
770	Selectivity divided by ten	(Mean institutional SAT V+M or equivalent		
771	rounded to three digits:	E.G., 1459=150) (see note 5)		
772				
773	Selectivity code	1-9	(see note 6)	
774	Enrollment code	1-9	(see note 7)	see codes,
775	Percent women enrolled code	1-9	(see note 8)	page 33
776	Percent graduate students enrolled code	1-9	(see note 9)	
777	Education and General expenditures per student code		(see note 10)	see codes,
778	Library expenditures per student code	1-9	(see note 11)	page 34
779	Value of assets per student code	1-9	(see note 12)	
780	Student/faculty ratio code	1-9	(see note 13)	
781	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136)			
782	(see note 14)			
783				
784	Tuition and fees code	1-9	(see note 15 and page 35)	
785	Percent BAs in biological sciences	(agriculture and bio sci)	(see note 16)	
786				
787	Percent BAs in vocational areas (architecture, communications, health professions,			
788	home economics, library sciences (math and physical science)		(see note 16)	
789	Percent BAs in social sciences (area studies, psychology, social science, law)			
790	(see note 16)			
791	Percent BAs in physical sciences	(math and physical science)	(see note 16)	
792				
793	Percent BAs in humanities	(fine arts, foreign languages, letters, theology)		
794		(see note 16)		
795	Percent BAs in engineering	(computer science, engineering)	(see note 16)	
796				
797	Percent BAs in business	(business only)	(see note 16)	
798				
799	Percent BAs in education	(education only)	(see note 16)	
800				

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ATP-ACT Data

CHARACTER
POSITION

801 Highest degree offered 1-7 (see page 35)
802 Affiliation (see note 17 and page 36)
803
804 Distance in miles from home to this institution
805 1=zero or one mile
806 0=missing data (if zip code not valid) (see note 18)
807
808
809 college choice #3, institutional
810 BLANK data (note 26A)
811
812
813
814
815
816 BLANK
817
818 State 58 categories see page 30
819
820 Region 9 categories see page 31
821
822
823 BLANK
824
825
826 Race of Institution 1=white; 2=black
827 Control 1=public; 2-private
828 Type 1=univ; 1=other 4-yr; 3=other 2-yr; 4=4-yr. branch of
829 17 Category Institution Code multiuniversity; 5=2-yr branch of multiuniversity;
830 (see note 3 and page 32) 6=2-yr branch of multi-four-year institution
831 Prestige 1-9 (see note 4 and page 32)
832 Selectivity divided by ten (Mean institutional SAT V+M or equivalent
833 rounded to three digits: E.G., 1459=150) (see note 5)
834
835 Selectivity code 1-9 (see note 6)
836 Enrollment code 1-9 (see note 7) see codes,
837 Percent women enrolled code 1-9 (see note 8) page 33
838 Percent graduate students enrolled code 1-9 (see note 9)
839 Education and General expenditures per student code (see note 10) see codes,
840 Library expenditures per student code 1-9 (see note 11) page 34
841 Value of assets per student code 1-9 (see note 12)
842 Student/faculty ratio code 1-9 (see note 13)
843 Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136)
844 (see note 14)
845
846 Tuition and fees code 1-9 (see note 15 and page 35)
847 Percent BAs in biological sciences (agriculture and bio sci) (see note 16)
848
849 Percent BAs in vocational areas (architecture, communications, health professions,
850 home economics, library sciences (math and physical science) (see note 16)

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ATP-ACT Data

CHARACTER POSITION				
851 852	Percent BAs in social sciences (area studies, psychology, social science, law) (see note 16)			
853 854	Percent BAs in physical sciences (math and physical science)		(see note 16)	
855 856	Percent BAs in humanities (fine arts, foreign languages, letters, theology) (see note 16)			
857 858	Percent BAs in engineering (computer science, engineering)		(see note 16)	
859 860	Percent BAs in business (business only)		(see note 16)	
861 862	Percent BAs in education (education only)		(see note 16)	
863	Highest degree offered 1-7		(see page 35)	
864 865	Affiliation		(see note 17 and page 36)	
866 867 868 869	Distance in miles from home to this institution 1=zero or one mile 0=missing data (if zip code not valid)		(see note 18)	
870 871 872 873 874 875	BLANK	college choice #4, institutional data (note 26A)		
876 877 878 879	BLANK			
880 881	State	58 categories	see page 30	
882	Region	9 categories	see page 31	
883 884 885 886 887	BLANK			
888	Race of Institution	1=white; 2=black		
889	Control	1=public; 2-private		
890	Type	1=univ; 1=other 4-yr; 3=other 2-yr; 4=4-yr. branch of multiuniversity; 5=2-yr branch of multiuniversity; 6=2-yr branch of multi-four-year institution		
891 892	17 Category Institution Code (see note 3 and page 32)			
893	Prestige	1-9 (see note 4 and page 32)		
894 895 896	Selectivity divided by ten rounded to three digits:	(Mean institutional SAT V+M or equivalent E.G., 1459=150) (see note 5)		
897	Selectivity code	1-9	(see note 6)	see codes, page 33
898	Enrollment code	1-9	(see note 7)	
899	Percent women enrolled code	1-9	(see note 8)	
900	Percent graduate students enrolled code	1-9	(see note 9)	

CHARACTER POSITION				
901	Education and General expenditures per student code		(see note 10)	see codes,
902	Library expenditures per student code	1-9	(see note 11)	page 34
903	Value of assets per student code	1-9	(see note 12)	
904	Student/faculty ratio code	1-9	(see note 13)	
905	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136)			
906	(see note 14)			
907				
908	Tuition and fees code	1-9	(see note 15 and page 35)	
909	Percent BAs in biological sciences (agriculture and bio sci)		(see note 16)	
910				
911	Percent BAs in vocational areas (architecture, communications, health professions,			
912	home economics, library sciences (math and physical science)		(see note 16)	
913	Percent BAs in social sciences (area studies, psychology, social science, law)			
914	(see note 16)			
915	Percent BAs in physical sciences (math and physical science)		(see note 16)	
916				
917	Percent BAs in humanities (fine arts, foreign languages, letters, theology)			
918	(see note 16)			
919	Percent BAs in engineering (computer science, engineering)		(see note 16)	
920				
921	Percent BAs in business (business only)		(see note 16)	
922				
923	Percent BAs in education (education only)		(see note 16)	
924				
925	Highest degree offered 1-7		(see page 35)	
926	Affiliation		(see note 17 and page 36)	
927				
928	Distance in miles from home to this institution			
929	1=zero or one mile			
930	0=missing data (if zip code not valid)		(see note 18)	
931				
932				
933			college choice #5, institutional	
934	BLANK		data (note 26A)	
935				
936				
937				
938				
939				
940	BLANK			
941				
942	State	58 categories	see page 30	
943				
944	Region	9 categories	see page 31	
945				
946				
947	BLANK			
948				
949				
950	Race of Institution		1=white; 2=black	

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ATP-ACT Data

CHARACTER
POSITION

951	Control	1=public; 2-private		
952	Type	1=univ; 1=other 4-yr; 3=other 2-yr; 4=4-yr. branch of multiuniversity; 5=2-yr branch of multiuniversity; 6=2-yr branch of multi-four-year institution		
953	17 Category Institution Code (see note 3 and page 32)			
954				
955	Prestige	1-9 (see note 4 and page 32)		
956	Selectivity divided by ten rounded to three digits:	(Mean institutional SAT V+M or equivalent E.G., 1459=150)	(see note 5)	
957				
958				
959	Selectivity code	1-9	(see note 6)	
960	Enrollment code	1-9	(see note 7)	see codes, page 33
961	Percent women enrolled code	1-9	(see note 8)	
962	Percent graduate students enrolled code	1-9	(see note 9)	
963	Education and General expenditures per student code		(see note 10)	see codes, page 34
964	Library expenditures per student code	1-9	(see note 11)	
965	Value of assets per student code	1-9	(see note 12)	
966	Student/faculty ratio code	1-9	(see note 13)	
967	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136)		(see note 14)	
968				
969				
970	Tuition and fees code	1-9	(see note 15 and page 35)	
971	Percent BAs in biological sciences	(agriculture and bio sci)	(see note 16)	
972				
973	Percent BAs in vocational areas	(architecture, communications, health professions, home economics, library sciences (math and physical science)	(see note 16)	
974				
975	Percent BAs in social sciences	(area studies, psychology, social science, law)	(see note 16)	
976				
977	Percent BAs in physical sciences	(math and physical science)	(see note 16)	
978				
979	Percent BAs in humanities	(fine arts, foreign languages, letters, theology)	(see note 16)	
980				
981	Percent BAs in engineering	(computer science, engineering)	(see note 16)	
982				
983	Percent BAs in business	(business only)	(see note 16)	
984				
985	Percent BAs in education	(education only)	(see note 16)	
986				
987	Highest degree offered 1-7		(see page 35)	
988	Affiliation		(see note 17 and page 36)	
989				
990	Distance in miles from home to this institution 1=zero or one mile 0=missing data (if zip code not valid)		(see note 18)	
991				
992				
993				
994	BLANK	college choice # 6, institutional data (note 26A)		
995				
996				
997				
998				
999				

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ATP-ACT Data

CHARACTER POSITION				
1000				
1001				
1002	BLANK			
1003				
1004	State	58 categories	see page 30	
1005				
1006	Region	9 categories	see page 31	
1007				
1008				
1009	BLANK			
1010				
1011				
1012	Race of Institution	1=white; 2=black		
1013	Control	1=public; 2-private		
1014	Type	1=univ; 1=other 4-yr; 3=other 2-yr; 4=4-yr. branch of		
1015	17 Category Institution Code	multiuniversity; 5=2-yr branch of multiuniversity;		
1016	(see note 3 and page 32)	6=2-yr branch of multi-four-year institution		
1017	Prestige	1-9 (see note 4 and page 32)		
1018	Selectivity divided by ten	(Mean institutional SAT V+M or equivalent		
1019	rounded to three digits:	E.G., 1459=150) (see note 5)		
1020				
1021	Selectivity code	1-9	(see note 6)	
1022	Enrollment code	1-9	(see note 7)	see codes,
1023	Percent women enrolled code	1-9	(see note 8)	page 33
1024	Percent graduate students enrolled code	1-9	(see note 9)	
1025	Education and General expenditures per student code		(see note 10)	see codes,
1026	Library expenditures per student code	1-9	(see note 11)	page 34
1027	Value of assets per student code	1-9	(see note 12)	
1028	Student/faculty ratio code	1-9	(see note 13)	
1029	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136)			
1030	(see note 14)			
1031				
1032	Tuition and fees code	1-9	(see note 15 and page 35)	
1033	Percent BAs in biological sciences	(agriculture and bio sci)	(see note 16)	
1034				
1035	Percent BAs in vocational areas	(architecture, communications, health professions,		
1036	home economics, library sciences	(math and physical science)	(see note 16)	
1037	Percent BAs in social sciences	(area studies, psychology, social science, law)		
1038			(see note 16)	
1039	Percent BAs in physical sciences	(math and physical science)	(see note 16)	
1040				
1041	Percent BAs in humanities	(fine arts, foreign languages, letters, theology)		
1042			(see note 16)	
1043	Percent BAs in engineering	(computer science, engineering)	(see note 16)	
1044				
1045	Percent BAs in business	(business only)	(see note 16)	
1046				

CHARACTER POSITION		
1047	Percent BAs in education (education only) (see note 16)	
1048		
1049	Highest degree offered(see page 35)	
1050	Affiliation (see note 17 and page 36)	
1051		
1052	Distance in miles from home to this institution	
1053	1=zero	
1054	0=missing data (if zip code not valid) (see note 18)	
1055	END DATA COLLEGE CHOICE #6	
1056	Mean college choice selectivity (see note 27)	
1057		
1058	Mean college choice size (see note 28)	
1059		
1060	Mean college choice tuition and fees (see note 29)	
1061		
1062	Mean college choice distance from home to college (see note 30)	
1063		
1064		
1065	END OF COLLEGE CHOICE DATA	
1066	BLANK (see note 31)	
1067		
1068	BLANK	
1069	Common verbal aptitude score divided by ten	NO MISSING DATA (see note 32)
1070		
1071	Common mathematical aptitude score divided by ten	NO MISSING DATA (see note 33
1072		
1073	High School GPA 1=0.5-0.9, 2=1.0-1.4, 3=1.5-1.9, 4=2.0-2.4, 5=2.5-2.9, 6=3.0-3.4, 7=3.5-4.0 (see note 34)	
1074	Income 1=$3,000, 2=$3-$5,999, 3=$6-7,499, 4=$7,500-,999, 5=$9-$11,999 6=$12-$14,999, 7=$15-$19,999, 8=$20,000 + (see note 35)	
1075	Race 1=white, 2=black, 3=American Indian, 4=Oriental, 5=Mexican American, 6=Puerto Rican American, 7= other (see note 36)	
1076	English spoken at home? 1=no 2=yes (see note 37)	
1077	Number of dependents 1=none, 2=one, 3=two, 4=three, 5=four, 6=five, 7=six+ (note 38	
1078	Anticipated residence at college 1=parents, 2=residence hall, 3=fraternity, 4=other campus housing, 5=off-campus apartment (see note 39)	
1079	High school type 1=public, 2=private or other (see note 40)	
1080	High school program 1=college prep, 2=bus. or voc., 3=general or other (note 41)	
1081	High school size 1=less than 100, 2=100 or more (see note 42)	
1082	Athletics	
1083	Ethnic or racial	High School Extracurricular Activities
1084	Journalism, debate, drama	
1085	Music	1=no
1086	Departmental or pre-professional	2=yes
1087	Religious	
1088	Social clubs and community organization	(see note 43)
1089	Student government	
1090	English Years of Study	1=none
1091	Math	2=one year or less
1092	Foreign language (see note 44)	3=up to two years
1093	Natural sciences	4=up to three years
1094	Social studies	5=more than three yrs.

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TAPE LAYOUT
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ATP-ACT Data

CHARACTER POSITION		
1095	Highest degree planned	1=vocational, 2=AA, 3=BA, 4=MA, 5=doctoral or prof. 6=other or undecided (see note 45)
1096	Educational and vocational plans	Need Help In 1=no 2=yes (see note 46)
1097	Math	
1098	Personal counseling	
1099	Reading	
1100	Study skills	
1101	Writing	
1102	Athletics	College Extracurricular Activities 1=no 2=yes (see note 43)
1103	Ethnic or racial,	
1104	Journalism, debate, drama	
1105	Music	
1106	Departmental or pre-professional	
1107	Religious	
1108	Social or community service	
1109	Student government	
1110	College major field of study	(see note 47 and pp. 39-41)
1111		
1112		
1113	Collapsed major	(see note 48 and page 42)
1114		
1115	English	Plan to Apply for Advanced Placement 1=no 2=yes (see note 49)
1116	Math	
1117	Foreign language	
1118	Natural science	
1119	Rank in class	3=top quarter, 2=middle, 1=bottom quarter (see note 50)
1120	BLANK	
1121		
1122		
1123		
1124		
1125		
1126		
1127		
1128		
1129		
1130		
1131		
1132		
1133		
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1144		

CHARACTER POSITION	
1145	
1146	
1147	
1148	
1149	
1150	
1151	
1152	
1153	
1154	
1155	BLANK
1156	
1157	
1158	
1159	
1160	
1161	
1162	
1163	
1164	
1165	Enrolled in first choice college 1=no, 2=yes (see note 53)
1166	Enrolled in one of six 12th grade choices 1=no, 2=yes (see note 54)
1167	Applied/accepted status 1=didn't apply to first 12th grade choice 2=applied but not accepted to 1st 12th grade choice (see note 55) 3=applied and accepted to 1st 12th grade choice
1168	Applied to first 12th grade choice 1=no, 2=yes (see note 56)
1169	Accepted by first 12th grade choice 1=no, 2=yes (see note 57)
1170	Any of up to four applications was in six 12th grade choices 1=no, 2=yes (note 58)
1171	Any of up to four acceptances was in six 12th grade choices 1=no, 2=yes (note 58A
1172	High School GPA (calculated percentage, range=55-95 (see note 59)
1173	
1174	BLANK | ***END ATP-ACT DATA***
1175	WEIGHT indicator 1=not to be weighted. 2=to be weighted (see note 61)
1176	
1177	
1178	BLANK
1179	
1180	Weight 1 -- Census weight x 10.0 (Estimate population from census data;weighted by
1181	F3.1 race, family income, sex, and home state) (see note 63)
1182	
1183	Weight 2 -- Within institution correction x 10.0 for test taking bias
1184	(Adjusts within CIRP college for nontestakers (ACT or SAT) by high
1185	F3.1 school grade, sex, and yr. graduated from H.S.) (see note 64)
1186	Weight 3 -- CIRP population weight x 10.0. Product of weight and the CIRP sample
1187	weight. (Estimates population of entering college freshmen from HEGIS
1188	and CIRP data' weighted by H.S. grades and institution type) (see note 65)
1189	BEGIN HOME ZIPCODE DATA
1190	Distance to nearest public two-year college 1-999
1191	
1192	
1193	Distance to nearest public four-year college 1-999
1194	

CHARACTER POSITION		
1195 1196 1197	Distance to nearest low selectivity public university (prestige < 5)	1-999
1198 1199 1200	Distance to nearest high selectivity public university (selectivity $\geq$ 1020 and prestige = 5) or (prestige > 5)	1-999
1201 1202 1203	Distance to nearest public black college	1-999
1204	Number of private low selectivity colleges within 25 miles (sel < 1050)	1-9
1205	Number of private medium selectivity colleges within 25 miles (sel 1050-1174)	1-9
1206	Number of private high selectivity colleges within 25 miles (sel > 1175)	1-9
1207 1208 1209	Distance to nearest private black college	1-999
1210 1211 1212	Distance to nearest low selectivity Catholic college (sel < 1050)	1-999
1213 1214 1215	Distance to nearest high selectivity Catholic college (sel > 1050)	1-999
1216	Number of low selectivity Protestant colleges within 25 miles (sel= 1050)	1-9
1217	Number of high selectivity Protestant colleges within 25 miles (sel= 1050)	1-9

END HOME ZIPCODE DATA

NOTE A: FURTHER DETAIL ON CIRP CODES

Column(s)		
28	Year Graduate from high school	1=1975 2=1974 3=1973 4=1972/earlier 5=did not graduate, but passed G.E.D. 6=never completed high school
77	Total income independent of parents	1=none 2=$500 3=$500-$999 4=$1000-$1999 5=$2000-$2999 6=$3000-$4999 7=$5000-$9999 8=$10,000+
98 99	Highest degree planned, ever Highest degree planned, this college	1=none 2=AA or equiv. 3=BA 4=MA 5=Ph.D. or Ed.D. 6=M.D., D.O., D.D.S. D.V.M. 7=LL.B. or J.D. (law) 8=B.D. or M. Div. 9=other
100 101	Where plan to live Where prefer to live	1=with parents or relatives 2=other private home, apt., or room 3=college dorm 4=fraternity or sorority house 5=other campus student housing 6=other
111-112	Parents' income last year	1=less than $3000 2=$3000-$3999 3=$4000-5999 4=$6000-7999 5=$8000-9999 6=$10,000-12,499 7=$12,500-14,999 8=$15,000-19,999 9=$20,000-24,999 10=$25,000-29,999 11=$30,000-39,999 12=$35,000-39,999 13=$40,000-49,999 14=$50,000 or more
113 114	Father's education Mother's education	1-grammar school or less 2=some high school 3=high school graduate 4=postsecondary school other than college 5=some college 6=college degree 7=some graduate school 8=graduate degree
115-116 117-118 119-120	Student's probable occupation Father's occupation Mother's occupation	1=Accountant or auditor 2=Architect or urban planner 3=Artist (painting, sculpture, etc.)

NOTE A (continued)

occupations (continued)

4=Business-banker or financier
5=Business-buyer or purchasing agent
6=Business-manager or administrator
7=Business-owner or proprietor
8=Business-public relations/advertising
9=Business-sales worker
10=Carpenter
11=Clergy or religious worker
12=Clerical-secretary, steno, typist, bookkeeper
13=Clerical-other
14=Commercial artist, designer, decorator
15=Computer programmer/analyst
16=Construction craftsman, n.e.c.
17=Counselor-guidance, family, school
18=Dentist (including orthodontist)
19=Draftsman
20=Driver-truck, taxi, or bus
21=Electrician
22=Engineer
23=Factory worker, n.e.c.
24=Farm or ranch laborer
25=Farm or ranch owner or manager
26=Foreman, n.e.c.
27=Forester, conservationist, fish or wildlife specialist
28=Government official, administrator, or politician
29=Home economist or dietitian
30=Homemaker (full-time)
31=Lawyer or judge
32=Librarian or archivist
33=Laborer (unskilled or semiskilled)
34=Law enforcement officer
35=Mathematician, statistician, actuary
36=Mechanic, machinist, repairman
37=Military (career)
38=Nurse
39=Optometrist
40=Performing artist, musician, entertainer
41=Pharmacist, pharmacologist
42=Physician, surgeon
43=Plumber
44=Psychologist (clinical, therapist)
45=Scientific researcher
46=Service worker-priv. household (maid, co etc.)
47=Service-protective (not law enforcement)
48=Service-other
49=Skilled tradesman, n.e.c.
50=Social, welfare, recreation worker
51=Teacher, professor, administrator-college or university

Column(s)

Occupations (continued

52=Teacher or administrator-secondary
53=Teacher or administrator-elementary
54=Teacher or education specialist other than above
55=Technician or technologist (health)
56=Technician or technologist (other)
57=Therapist (physical,occupational, speech)
58=Veterinarian
59=Writer, journalist, interpreter
60=Other occupation, n.e.c.
61=Unemployed
62=Undecided

121-122 Student's religious preference
123-124 Father's religious preference
125-126 Mother's religious preference

1=Baptist
2=Congregational (U.C.C.)
3=Eastern Orthodox
4=Episcopal
5=Jewish
6=Latter Day Saints (Mormon)
7=Lutheran
8=Methodist
9=Muslim
10=Presbytarian
11=Quaker (Society of Friends)
12=Roman Catholic
13=Seventh Day Adventist
14=Unitarian-Universalist
15=Other Protestant
16=Other Religion
17=None

156-157 Undergraduate Major

1=Art, fine and applied
2=English (language and literature)
3=History
4=Journalism
5=Language and Literature (not English)
6=Music
7=Philosophy
8=Speech and Drama
9=Theology or religion
10=Other arts and humanities
11=Biology (general)
12=Biochemistry or biophysics
13=Botany
14=Marine (life) science
15=Microbiology or bacteriology
16=Zoology
17=Other biological sciences
18=Accounting
19=Business administration (general)
20=Finance
21=Marketing

Column(s)

major (continued

22=Management
23=Secretarial studies
24=Other business
25=Business education
26=Elementary education
27=Music or art education
28=Physical education or recreation
29=Secondary education
30=Special education
31=Other education
32=Aeronautical or astronautical
33=Civil engineering
34=Chemical engineering
35=Electircal or electronic engineering
36=Industrial engineering
37=Mechanical engineering
38=Other engineering
39=Astronomy
40=Atmospheric science (incl. meterology)
41=Chemistry
42=Earth science
43=Marine science (incl. oceanography)
44=Mathematics
45=Physics
46=Statistics
47=Other physical science
48=Architecture or urban planning
49=Home Economics
50=Health technology (medical, dental, laboratory)
51=Library or archival science
52=Nursing
53=Pharmacy
54=Therapy (occupational, physical, speech)
55=Other professional
56=Anthropology
57=Economics
58=Geography
59=Political science (gov't, international relations)
60=Psychology
61=Social work
62=Sociology
63=Other social science
64=Building trades
65=Data processing/computer programming
66=Drafting/design
67=Electronics
68=Mechanics
69=Other technical
70=Agriculture
71=Communications (radio, TV, etc.)

major (continued)

72=Computer science
73=Forestry
74=Law enforcement
75=Military science
76=Other field
77=Undecided

2 CIRP Stratification Cells*

01 = predom. white, pub. univer, low sel
02 = predom. white, pub. univer, med sel
03 = predom. white, pub. univer, high sel
04 = predom. white, pri. univer, low sel
05 = predom. white, pri. univer. med. sel
06 = predom. white, pri. univer. high sel
07 = predom. white, pub. 4/yr, low sel
08 predom. white, pub. 4/yr, med sel
09 = predom. white, pub. 4/yr, high sel
10 = predom. white, pub. 4/yr, missing sel
11 = predom. white, pri-nonsec, 4/yr,low sel
12 = predom white, pri-nonsec, 4/yr, med se
13 = predom. white, pri-nonsec, 4/yr, high
14 = predom. white, pri-nonsec, 4/yr, very
15 = predom. white, pri-nonsec, 4/yr, no sel
16 = predom. white, Rom Cath 4/yr. low sel
17 = predom. white, Rom Cath 4/yr. med sel
18 = predom. white, Rom Cath 4/yr. high sel
19 = predom. white, Rom Cath 4/yr very high
20 = predom. white, Rom Cath 4/yr no sel
21 = predom. white, Prot 4/yr, low sel
22 = predom. white, Prot 4/yr, med sel
23 = predom. white, Prot 4/yr, high sel
24 = predom. white, Prot. 4/yr, very high se
25 = predom. white, Prot. 4/yr,missing sel
26 = predom. white, pub 2/yr, enrol 100
27 = predom. white, pub 2/yr, enrol 100-249
28 = predom. white, pub 2/yr, enrol 250-499
29 = predom. white, pub 2/yr, enrol 500-999
29 = predom. white, pub 2/yr, enrol 1,000
30 = predom. white, pri 2/yr, enrol 100
31 = predom. white, pri 2/yr, enrol 100-249
32 = predom. white, pri 2/yr, enrol 250-499
33 = predom. white, pri 2/yr, enrol 500
34 = predom. black, 4/yr, public colleges
35 = predom. black, 4/yr, private colleges
36 = predom. black, 2/yr, public colleges
37 = predom. black, 2/yr, private colleges

359-362 CIRP population weights (to be used only for all participants in 1975 CIRP;
63-366 not useful in this field,but used to compute Weight 3 (columns 1186-1188).
See note 65.

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* For details on stratification scheme, see Astin, A.W., King, M.R. and Richardson, G.T. The American Freshman: National Norms for Fall 1975. Los Angeles: Graduate School of Education, University of California at Los Angeles, 1975.

NOTE A (continued)

Column(s)

418-419
480-481
542-543
604-605
694-695
756-757
818-819
880-881
942-943
1004-1005

State in which institution is located

1 = Alabama
2 = Alaska
3 = Arizona
4 = Arkansas
5 = California
6 = Colorado
7 = Connecticut
8 = Delaware
9 = District of Col.
10 = Florida
11 = Georgia
12 = Hawaii
13 = Idaho
14 = Illinois
15 = Indiana
16 = Iowa
17 = Kansas
18 = Kentucky
19 = Louisiana
20 = Maine
21 = Maryland
22 = Massachusetts
23 = Michigan
24 = Minnesota
25 = Mississippi
26 = Missouri
27 = Montana
28 = Nebraska
29 = Nevada
30 = New Hampshire
31 = New Jersey
32 = New Mexico
33 = New York
34 = North Carolina
35 = North Dakota
36 = Ohio
37 = Oklahoma
38 = Oregon
39 = Pennsylvania
40 = Rhode Island

Column(s)

State in which institution is located
(continued)

:

41 = South Carolina
42 = South Dakota
43 = Tennessee
44 = Texas
45 = Utah
46 = Vermont
47 = Virginia
48 = Washington
49 = West Virginia
50 = Wisconsin
51 = Wyoming
52 = US Service Schools
53 = American Samoa
54 = Canal Zone
55 = Guam
56 = Puerto Rico
57 = Trust Terr Pac Is
58 = Virgin Islands

420
482
544
606
696
758
820
882
944
1006

Region

1 = New England (Conn, ME, Mass, NH, RI, VE)
2 = Mid East (Del, DC, MD, NJ, NY, Pa)
3 = Great Lakes (Ill, Ind, Mich, Oh, Wis)
4 = Plains (Io, Ks, Minn, Mo, Neb, ND, SD)
5 = Southeast (Ala, Ark, Fla, Ga, Ky, La, Miss, NC, SC, Tenn, Va, WVa)
6 = Southwest (Az, NM, Ok, Tx)
7 = Rocky Mountains (Col, Id, Mont, Ut, Wy)
8 = Far West (Ak, Cal, Hi, Nev, Ore, Wa)
9 = Outlying Areas (American Samoa, Canal Zone, Guam, Puerto Rico, Trust Terr Pac Is, Virgin Islands)

Column(s)

435
497
559
621
711
773
835
897
959
1021

Selectivity Coded

1	less than 775
2	775-849
3	850-924
4	925-999
5	1000-1074
6	1075-1149
7	1150-1224
8	1125-1299
9	1300+

436
498
560
622
712
774
836
898
960
1022

Enrollment

1	less than 250
2	250-499
3	500-999
4	1000-1499
5	1500-1999
6	2000-4999
7	5000-9999
8	10000-19999
9	20000 or more

437
499
561
623
713
775
837
899
1023

Percent Women Coded

1	0
2	1-9
3	10-24
4	25-44
5	45-54
6	55-74
7	75-90
8	91-99
9	100

438
500
562
624
714
776
838
900
962
1024

Percent Graduate Students Coded

1	0	7	26-30
2	1-5	8	31-40
3	6-10	9	over 40
4	11-15		
5	16-20		
6	21-25		

Column(s)

439
501
563
625
715
777
839
901
963
1025

Education and General Expenditures per Student Coded

1	less than 1000
2	1000-1499
3	1500-1999
4	2000-2499
5	2500-2999
6	3000-3499
7	3500-3999
8	4000 or more

440
502
564
626
716
778
840
902
964
1026

Library Expenditures per Student Coded

1	less than $50
2	50-99
3	100-149
4	150-199
5	200-249
6	250-299
7	300-349
8	350-399
9	400 or more

441
503
565
627
717
779
841
903
965
1027

Value of Assets per Student Coded

1	less than 2000
2	2000-3999
3	4000-5999
4	6000-7999
5	8000-11999
6	12000-15999
7	16000-19999
8	20000-29999
9	30000+

442
504
566
628
718
780
842
904
966
1028

Student Faculty Ratio Coded

1	less than 10 to 1
2	10-12
3	13-15
4	16-18
5	19-21
6	22-24
7	25-27
8	28-30
9	more than 30

Column(s)		
446 508 570 632 722 784 846 908 870 1032	Tuition and Fees	1 less than 250 2 250-499 3 500-999 4 1000-1499 5 1500-1999 6 2000-2499 7 2500-2999 8 3000-3499 9 3500 or more
447-462 573-586 633-648 785-800 847-862 909-924 971-946 1033-1048	Percent BAs in:	biological sciences vocational areas social sciences physical sciences humanities engineering business education Value indicated is one greater than the actual percentage (0=missing data) (e.g., 1=0% 2=1% 3=2% . . . 98=97% 99=98%, 99%, 100%)
463 525 587 649 739 801 863 925 987 1049	Highest Degree Offered	1 Two but less than four years 2 Four or five-year baccalaureate 3 First-professional degree 4 Master's 5 Beyond Master;s but less than doctor 6 Doctorate 7 Undergraduate non-degree granting

464-465
526-527
583-539
650-651
740-741
802-803
864-865
926-927
988-939
1050-1051

11 Federal
12 State
13 Local
14 State and local
15 State related
21 Independent, non-profit
25 Organized as profit-making
26 Advent Christian Church
51 African Methodist
24 African Methodist Episcopal Zion Church
52 American Baptist
22 American Evangelical Lutheran Church
53 American Lutheran
46 American Lutheran and Lutheran Church in America
23 American Missionary Association
27 Assemblies of God Church
54 Baptist
28 Brethren Church
29 Brethren in Christ Church
34 Christian and Missionary Alliance Church
61 Christian Church
55 Christian Methodist Episcopal
35 Christian Reformed Church
56 Church of Christ
57 Church of God
31 Church of God in Christ
32 Church of New Jerusalem
58 Church of the Brethren
59 Church of the Nazarene
60 Cumberland Presbyterian
40 Evangelical and Reformed Church
36 Evangelical Congregational Church
37 Evangelical Covenant Church of America
38 Evangelical Free Church of America
39 Evangelical Lutheran Church
62 Evangelical United Brethren
64 Free Methodist
41 Free will Baptist Church
63 Friends
63 Friends United Meeting

70 General Conference Mennonite Church
91 Greek Orthodox
42 Interdenominational
80 Jewish
94 Latter Day Saints
67 Lutheran Church in America
68 Lutheran Church-Missouri Synod
43 Mennonite Brethren Church
69 Mennonite Church
44 Moravian Church
78 Multiple Protestant Denominations
46 North American Baptist
79 Other Protestant
47 Pentecostal Holiness
72 Presbyterian, U.S.
66 Presbyterian, U.S., United Presbyterian
73 Protestant Episcopal
49 Reformed Church in America
50 Reformed Episcopal Church
81 Reformed Presbyterian Church
82 Reorganized Latter Day Saints Church
30 Roman Catholic
92 Russian Orthodox
95 Seventh Day Adventists
93 Seventh Day Baptist Church
75 Southern Baptist
88 Undenominational
93 Unitarian Universalist
84 United Brethren
85 United Christian Mission Society
76 United Church of Christ
86 United Lutheran Church
71 United Methodist
87 United Missionary Church
77 United Presbyterian, USA
89 Wesleyan Church
33 Wisconsin Evangelist Lutheran Synod
90 Young Men's Christian Association
99 Other

Column(s)			
676-677	State of Residence	Ala.	01
		Alaska	02
		Ariz.	03
		Ark.	04
		Calif.	05
		Colo.	06
		Conn.	07
		Del.	08
		D.C.	09
		Fla.	10
		Ga.	11
		Hawaii	12
		Idaho	13
		Ill.	14
		Ind.	15
		Iowa	16
		Kans.	17
		Ky.	18
		La.	19
		Maine	20
		Md.	21
		Mass.	22
		Mich.	23
		Minn.	24
		Miss.	25
		Mo.	26
		Mont.	27
		Nebr.	28
		Nev.	29
		N.H.	30
		N.J.	31
		N. Mex.	32
		N.Y.	33
		N.C.	34
		N. Dak.	35
		Ohio	36
		Okla.	37
		Oreg.	38
		Pa.	39
		R.I.	40
		S.C.	41
		S. Dak.	42
		Tenn.	43
		Tex.	44
		Utah	45
		Vt.	46
		Va.	47
		Wash.	48
		W. Va.	49
		Wis.	50
		Wyo.	51
		All other	52

Column(s)

1110-1112 College Major Field of Study

001 AGRICULTURE
002 agriculture economics
003 agronomy, field crops
004 animal science
005 fish and game, wildlife management
006 food science
007 horticulture

008 ARCHITECTURE

009 ART
010 art history
011 commercial art
012 graphic arts
013 interior decorating
014 photography

015 BIOLOGICAL SCIENCES
016 biochemistry
017 biology
018 botany
019 ecology
020 zoology

021 BUSINESS AND COMMERCE
022 accounting
023 advertising
024 business management and administrat
025 finance and banking
026 hotel and restaurant administratio
027 industrial management
028 real estate
029 sales and retailing
030 secretarial studies
031 transportation and commerce

032 COMMUNICATIONS
033 journalism
034 radio and television

035 COMPUTER SCIENCES AND SYSTEMS ANAL
036 computer science
037 data processing
038 systems analysis

039 EDUCATION
040 agricultural education
041 art education
042 business education
043 special education
044 elementary education
045 health education
046 industrial arts education

College major Field of Study
(continued)

047 music education
048 physical education
049 secondary education
050 speech and hearing

051 ENGINEERING
052 aerospace and aeronautical.engineeri
053 agricultural engineering
054 air-conditioning engineering
055 architectural engineering
056 chemical engineering
057 civil engineering
058 drafting
059 electrical engineering
060 industrial and management engineerin
061 mechanical engineering
062 metallurgical engineering
063 mining and mineral engineering
064 naval architecture and marine engine
065 nuclear technology
066 petroleum engineering

067 ENGLISH AND LITERATURE
068 creative writing
069 literature
070 speech

071 ETHNIC STUDIES

072 FOREIGN LANGUAGES
073 Classical languages
074 French
075 German
076 Italian
077 linguistics
078 Russian
079 Spanish

080 FORESTRY AND CONSERVATION

081 GEOGRAPHY

082 HEALTH AND MEDICAL PROFESSIONS
083 dental assisting
084 dental hygiene
085 dental technology
086 health and safety
087 medical assisting
088 medical technology
089 nursing-practical
090 nursing-registered
091 occupational therapy
092 optometry
093 pharmacy
094 physical therapy

College Major Field of Study
(continued)

095 predentistry
096 premedicine
097 radiology and x-ray technology

098 HISTORY AND CULTURES

099 HOME ECONOMICS
100 clothing and textiles
101 family relations
102 food and nutrition
103 infant and child care
104 institution management

105 MATHEMATICS
106 statistics

107 MILITARY SCIENCE

108 MUSIC
109 music history

110 PHILOSOPHY
111 religion

112 PHYSICAL SCIENCES
113 astronomy
114 chemistry
115 earth science
116 geology
117 oceanography
118 physics

119 PSYCHOLOGY

120 SOCIAL SCIENCES
121 anthropology
122 economics
123 international relations
124 police science
125 political science
126 public administration
127 social work
128 sociology

129 DRAMATIC ARTS
130 dance

131 TRADE AND VOCATIONAL
132 automotive maintenance
133 aviation maintenance
134 carpentry

135 UNDECIDED AND OTHER

Column(s)			
1113-1114	Collapsed Major Field of Study	01	Agriculture
		02	Architecture
		03	Art
		04	Biological Sciences
		05	Business and Commerce
		06	Communications
		07	Computer Science and Systems Analysis
		08	Education
		09	Engineering
		10	English and Literature
		11	Ethnic Studies
		12	Foreign Languages
		13	Forestry and Conservation
		14	Geography
		15	Health and Medical Professions
		16	History and Cultures
		17	Home Economics
		18	Mathematics
		19	Military Science
		20	Music
		21	Philosophy
		22	Physical Sciences
		23	Psychology
		24	Social Sciences
		25	Theater Arts
		26	Trade and Vocational
		27	Undecided and Other

Editing for internal consistency. The edited items are as follows:

1. Number of colleges applied to and accepted by. Note that in question 17B from the freshman survey questionnaire, the student indicates whether he or she was accepted at up to three additional institutions. If the total number of acceptances indicated on these questions is greater than the total number of additional applications indicated in item 15 or the total number of acceptances indicated in item 16, these items were set equal to the number of acceptances (up to three) indicated in item 17B.

2. The Basic Educational Opportunity Grant. Since the total amount of this grant cannot exceed $2,000, any responses in the top two intervals ($2,000 - $4,000 and over $4,000) were reduced to the highest possible category ($1,000 - $1,999) (Code 4).

3. Highest degree planned. If the highest degree planned at this college is higher than the "highest planned," or if the "highest planned" is a nonresponse, then the "highest planned" is set equal to the "highest planned at this college."

Financial aid. Because the responses to this question are highly complex and potentially inconsistent, an elaborate series of editing and checking procedures were introduced in order to convert the data into more reasonable and internally consistent form.

The complex editing and checking procedures involved a number of steps as follows:

Step 1. Responses to the specific categories of aid in item #18 were used to create a corresponding set of dollar values which equaled the mid-point of the interval:

Original Response Code	Dollar Value
1	0
2	$250
3	750
4	1,500
5	3,000
6	5,000

Step 2. A number of variables were defined as follows:

"grants 18" = sum of the assigned dollar values (from Step 1) for Basic Educational Opportunity Grant, Supplemental Educational Opportunity Grant, state scholarship or grant and local or private scholarship or grant.

"loans 18" = sum of the assigned dollar values (from Step 1) for Federal Guaranteed Student loan, National Direct Student loan, and other loan.

"work-study 18" = assigned dollar values (from Step 1) for college work-study grant.

"total 18" = grants 18 + loans 18 + work-study 18.

"grants 12" = dollar amount provided by student in response to "grants" from item 12.

"loans 12" = dollar amount provided by student in response to "loans" from item 12.

"work-study 12" = dollar amount provided by student in response to "work-study" from item 12.

"total 12" = grants 12 + loans 12 + work-study 12.

Step 3. The purpose of this step is to determine if the total for item #18 is unrealistically high. We arbitrarily chose the value of $7,000 as a liberal upper limit for the total amount of financial aid a student might have for one year. If total 18 happens to be greater than $7,000, go to Step 4. Otherwise, skip to Step 5.

Step 4. The purpose of this step is to edit the values for item #18 (from Step 2) so the total does not exceed $7,000. First, a correction factor was computed which equaled the ratio between $7,000 and the actual total 18. This correction factor was then multiplied separately times grants 18, loans 18, and work-study 18, and the total 18 was set to $7,000.

Step 5. If total 12 = 0, go to Step 6. If not, go to Step 7.

Step 6. If total 18 = 0, skip to Step 11. If not, skip to Step 8. (Note that this latter branch is necessary if total 12 and total 18 do not agree; that is, one is 0 but the other is not.)

Step 7. If total 12 is greater than $7,000, go to Step 8. If not, skip to Step 9.

Step 8. This step is required because something is wrong with total 12. Either it is greater than $7,000, or it has been found to be 0 while total 18 is not. In either case, the editing procedure is to set total 12 = total 18, grant 12 = grant 18, loan 12 = loan 18, and work-study 12 = work-study 18. Then skip to Step 11.

Step 9. If total 18 = 0, go to step 10. If not, skip to Step 11.

Step 10. This step is required because total 18 has been found to = 0 while total 12 has not. Thus, it is necessary to set total 18 = total 12, grant 18 = grant 12, loan 18 = loan 12, work-study 18 = work-study 12. Then go to Step 11.

Step 11. The purpose of this final step was to edit the responses to item 17C (the dollar amounts reported as offers for the three next-most-preferred institutions.) First, totals were computed separately for each of the three institutions by summing the amounts reported for grants, loans, and work-study (as described for item 12 in Step 2). If any total was found to be less than $7,000, it was left as is. If not, it was set to 0 along with the corresponding amounts for grants, loans, and work-study. The reason for this decision was that there was no basis for comparing these amounts, as in the case of item 12 (which could be compared with item 18). The decision to set the amounts equal to 0 was based on the assumption that the student either did not understand the item (perhaps reporting amounts for the four undergraduate years) or simply did not take the item seriously. The number of cases in which it was necessary to edit these values was extremely small (less than 1 percent of the students).

Note: The edited CIRP record includes codes indicating whether or not items 12, 17C, or 18 were edited.(see positions 367-371)

1975 Student Information Form

Specifications for Form Processing

tem No.	Question	Valid Codes	Document-to-tape editing: Multiple Response	Document-to-tape editing: No Response	Length of field (#)
	College ID				6
	Special Grid (GRP)				2
	Subject ID				6
	ID Grid				9
	Sex	1-2	Clerical*	Clerical*	1
2	Veteran Status	1-2	0	0	1
	Age	1-10	0	0	2
	Year Grad from HS	1-6	0	0	1
5	High School Program	1-2	0	0	1
	High School Grades	1-8	Smaller	0	1
	HS preparation'	1-3		0	1(8)
	Status	1-2	Larger	0	1
9	Prior credit (this)	1-2	0	0	1
	Prior attn'd (other)	2	Not Possible	0	1(8)
1	Miles, college to home	1-6	0	0	1
3	Why Financial Aid	1-3	0	0	1(4)
	Choice of college	1-3	Larger	0	1
5	Number other applic.	1-7	0	0	1
6	Number other accept.	1-7	0	0	1
b	Accpt. at these col's.	1-2	0	0	1(3)
	Educational expenses	1-6	0	0	1(17)
9	Total personal income	1-8	Smaller	0	1
0	Financial Independence	1-2	0	0	1(2)
1	Marital Status	1-3	0	0	1
22	Tests Taken	1-3	0	0	1(3)
	Reasons for college	1-3	0	0	1(14)
	Highest degree	1-9	Larger	0	1(2)
25	Where plan to live	1-6	0	0	1(2)
6	Race**	2	Not Possible	1	1(7)
	Financial Concern	1-3	0	0	1
28	Political Views	1-5	0	0	1
9	Parents' total income	1-14	Smaller	00	2
0	Parents' education	1-8	Smaller	0	1(2)
31	Occupation	1-62	00	00	2(3)
2	Religion	1-17	00	00	2(3)
3	Attitudes	1-4	Smaller	0	1(29)
34	Major Field	1-77	00	00	2
35	Goals/values	1-4	0	0	1(17)
6	Best Guess	1-4	0	0	1(23)
37-46	Optional Items	1-5	All fields blank	0	1(10)

*Nonresponse and muitlple response were replaced with actual sex based on visual inspection of student's name on questionnaire.

NOTE: For missing data codes for individual items, see pages 47a-d.

J81484

MISSING OR INVALID DATA VALUES ARE WRITTEN NEXT TO EACH QUESTION

PLEASE PRINT: YOUR NAME ______________________ First / Middle or Maiden / Last

HOME STREET ADDRESS ______________________

CITY ______________________ STATE ________ ZIP CODE ________

When were you born?

Month (01-12) ☐☐ Day (01-31) ☐☐ Year ☐☐

1975 STUDENT INFORMATION FORM

DIRECTIONS

Your responses will be read by an optical mark reader. Your careful observance of these few simple rules will be most appreciated.

- Use only black lead pencil (No. 2 or less).
- Make heavy black marks that fill the circle.
- Erase cleanly any answer you wish to change.
- Make no stray markings of any kind.

EXAMPLE:

Will marks made with ball pen or fountain pen be properly read? Yes . . ○ No . . ●

Dear Student:

The information in this form is being collected as part of a continuing study of higher education conducted jointly by the American Council on Education and the University of California at Los Angeles. Your voluntary participation in this research is being solicited in order to achieve a better understanding of how students are affected by their college experiences. Detailed information on the goals and design of this research program are furnished in research reports available from the Laboratory for Research on Higher Education at UCLA. Identifying information has been requested in order to make subsequent mail follow-up studies possible. Your response will be held in the strictest professional confidence.

Sincerely,

Alexander W. Astin

Alexander W. Astin, Director
Cooperative Institutional Research Program

DO NOT MARK IN THIS AREA

[illegible]

MARK IN THIS AREA ONLY IF DIRECTED									GRP. CODE	
0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9	9

1. Your sex: Male . . 1 Female . . ○

2. Are you a veteran? (Mark one) No . . 1 Yes . . ○

3. How old will you be on December 31 of this year? (Mark one)

16 or younger	○	21	○
17	○	22	○
18	3	23-25	○
19	○	26-29	○
20	○	30 or older	○

4. In what year did you graduate from high school? (Mark one)

1975	1	Did not graduate but passed G.E.D. test	○
1974	○		
1973	○	Never completed high school	○
1972 or earlier	○		

(Note: Please check that your pencil markings are completely darkening the circles. Do not use pen or make ✓'s or X's. Thank You.)

5. Was your high school program: (Mark one)
College preparatory? . . . 1
Other? (For ex., vocational) . . . ○

6. What was your average grade in high school? (Mark one)
A or A+ ○ B+ ○ B- ○ C ○
A- ○ B 5 C+ ○ D ○

7. How well do you feel that your high school prepared you in the following areas:

(Mark one in each row)	Very Well	Fairly Well	Poorly
Mathematical skills	○	2	○
Reading and composition	○	2	○
Foreign languages	○	2	○
Science	○	2	○
History, social sciences	○	2	○
Vocational skills	○	2	○
Musical and artistic skills	○	2	○
Study habits	○	2	○

8. Are you enrolled (or enrolling) as a: (Mark one)
Full-time student? . . . 2
Part-time student? . . . ○

9. Prior to this term, have you ever taken courses for credit at this institution?
Yes . . . ○ No . . . 1

10. Since leaving high school, have you ever taken courses at any other institution?

ALL "1's"*

(Mark all that apply in each column)	For Credit	Not for Credit
No	○	○
Yes, at a junior or cmty. college	○	○
Yes, at a four-year college or university	○	○
Yes, at some other postsecondary school (For ex., technical, vocational, business)	○	○

11. How many miles is this college from your parents' home? (Mark one)

5 or less	○	51-100	○
6-10	○	101-500	○
11-50	3	More than 500	○

12. How much financial aid are you receiving from this college for this academic year? (Write in actual dollar amounts; write "0" if none)

Grants . . . $________
Loans . . . $________
Work-study . . . $________

13. If you are receiving financial aid from this institution, what is your understanding as to the basis on which your aid was awarded? (Mark one in each row)

ALL "1's"

	Major Reason	Minor Reason	Not a Reason
Financial need	○	○	○
Academic talent	○	○	○
Athletic talent	○	○	○
Other special talent	○	○	○

14. Is this college your: (Mark one)
First choice? . . 3 Less than second
Second choice? ○ choice? . . . ○

15. To how many colleges other than this one did you apply for admission this year? (Mark one)
No other 1 1 . . ○ 3 . . ○ 5 . . . ○
2 . . ○ 4 . . ○ 6 or more ○

Note: [illegible]

16. How many other acceptances did you receive this year? (Mark one)
None 1 1 . . ○ 3 . . ○ 5 . . . ○
2 . . ○ 4 . . ○ 6 or more ○

*Each of eight answers scored as a dichotomy: positive response = 2. no response = 1.

17 a. **What were the other colleges to which you applied for admission? (If you applied to more than three others, name the three that were most preferred):**

b. **Were you accepted for admission?**

c. **How much financial aid were you offered for the first year?** (Write in actual dollar amounts; write "0" if none was offered)

	Name of Institution	City, State	Yes	No	Grants	Loans	Work-Study
1.			○	0	$	$	$
2.			○	0	$	$	$
3.			○	0	$	$	$

18. **How much of your first year's educational expenses (room, board, tuition, and fees) do you expect to cover from each of the sources listed below?**

(Mark one answer for each possible source)

	None	$1–$499	$500–$999	$1,000–$1,999	$2,000–$4,000	Over $4,000
Parental, or family aid, or gifts	0	○	○	○	○	○
Grants or Scholarships:						
Basic Educational Opportunity Grant	0	○	○	○	○	○
Supplemental Educational Opportunity Grant	0	○	○	○	○	○
College Work-Study grant	0	○	○	○	○	○
State scholarship or grant	0	○	○	○	○	○
Local or private scholarship or grant	0	○	○	○	○	○
Loans:						
Fed. guaranteed student loan	0	○	○	○	○	○
Nat'l direct student loan	0	○	○	○	○	○
Other loan	0	○	○	○	○	○
Full-time work	0	○	○	○	○	○
Part-time or summer work (other than above)	0	○	○	○	○	○
Savings	0	○	○	○	○	○
Spouse	0	○	○	○	○	○
Your G.I. benefits	0	○	○	○	○	○
Your parent's G.I. benefits	0	○	○	○	○	○
Social secur. dependent's benefits	0	○	○	○	○	○
Other	0	○	○	○	○	○

19. **What was your total income last year independent of your parents? Consider annual income from all sources before taxes.** (Mark one)

None	0	$2,000–$2,999	○
Less than $500	○	$3,000–$4,999	○
$500–$999	○	$5,000–$9,999	○
$1,000–$1,999	○	$10,000 or more	○

20. **Are you financially independent of your parents this year? Were you financially independent last year?**

	Yes	No		Yes	No
This year	○	0	Last year	○	0

21. **Are you:** (Mark one) Zero

- Not presently married ○
- Married, living with spouse ○
- Married, not living with spouse ○

22. **Have you taken any of the following tests?**

(Mark one for each)	Yes	No	Don't Remember	
SAT	○	○	○	Zero
ACT	○	○	○	
PSAT (11th grade)	○	○	○	

23. **Below are some reasons that might have influenced your decision to attend this particular college. How important was each reason in your decision to come here?**

(Mark one answer for each possible reason)

Ⓝ Not Important
Ⓢ Somewhat Important
ⓥ Very Important

My relatives wanted me to come here	ⓥ	Ⓢ	1
I wanted to live away from home	ⓥ	Ⓢ	1
My teacher advised me	ⓥ	Ⓢ	1
This college has a very good academic reputation	ⓥ	Ⓢ	1
I was offered financial assistance	ⓥ	Ⓢ	1
Someone who had been here before advised me to go	ⓥ	Ⓢ	1
This college offers special educational programs	ⓥ	Ⓢ	1
This college has low tuition	ⓥ	Ⓢ	1
My guidance counselor advised me	ⓥ	Ⓢ	1
I wanted to live at home	ⓥ	Ⓢ	1
I could not get a job	ⓥ	Ⓢ	1
A friend suggested attending	ⓥ	Ⓢ	1
A college representative recruited me	ⓥ	Ⓢ	1
It will help me get a better job	ⓥ	Ⓢ	1

24. **What is the highest academic degree that you intend to obtain?** BOTH ZERO

(Mark one in each column) ▸	Highest Planned	Highest Planned at this college
None	○	○
Associate (A.A. or equivalent)	○	○
Bachelor's degree (B.A., B.S., etc.)	○	○
Master's degree (M.A., M.S., etc.)	○	○
Ph.D. or Ed.D.	○	○
M.D., D.O., D.D.S., or D.V.M.	○	○
LL.B. or J.D. (Law)	○	○
B.D. or M.Div. (Divinity)	○	○
Other	○	○

25. **Where do you plan to live during the fall term? If you had a choice, where would you have preferred to live?**

BOTH ZERO

(Mark one in each column) ▸	Plan To Live	Prefer To Live
With parents or relatives	○	○
Other private home, apt. or rm.	○	○
College dormitory	○	○
Fraternity or sorority house	○	○
Other campus student housing	○	○
Other	○	○

26. **Are you:** (Mark all that apply)

- White/Caucasian 0
- Black/Negro/Afro-American 0
- American Indian 0
- Oriental 0
- Mexican-American/Chicano 0
- Puerto Rican-American 0
- Other 0

27. **Do you have any concern about your ability to finance your college education?** (Mark one)

- None (I am confident that I will have sufficient funds) 0
- Some concern (but I will probably have enough funds) ○
- Major concern (not sure I will have enough funds to complete college) ○

28. **How would you characterize your political views?** (Mark one)

- Far left ○
- Liberal ○
- Middle-of-the-road ●
- Conservative ○
- Far right ○

29. **What is your best estimate of your parents' total income last year? Consider annual income from all sources before taxes.** (Mark one) Zero

Less than $3,000	○	$15,000–19,999	○
$3,000–3,999	○	$20,000–24,999	○
$4,000–5,999	○	$25,000–29,999	○
$6,000–7,999	○	$30,000–34,999	○
$8,000–9,999	○	$35,000–39,999	○
$10,000–12,499	○	$40,000–49,999	○
$12,500–14,999	○	$50,000 or more	○

30. **What is the highest level of formal education obtained by your parents?**

(Mark one in each column)	Father	Mother
Grammer school or less	○	○
Some high school	○	○
High school graduate	●	●
Postsecondary school other than college	○	○
Some college	○	○
College degree	○	○
Some graduate school	○	○
Graduate degree	○	○

31. What is:

Ⓜ Your mother's current occupation?

Ⓕ Your father's current occupation?

Ⓨ Your probable future occupation?

ALL ZEROS

(Mark one in each column. If your father or mother is deceased or retired, please indicate his or her last occupation.)

Accountant or auditor ⓎⒻⓂ
Architect or urban planner ⓎⒻⓂ
Artist (painting, sculpture, etc.) ⓎⒻⓂ
Business: banker or financier ⓎⒻⓂ
Business: buyer or purchasing agent ⓎⒻⓂ
Business: manager or administrator ⓎⒻⓂ
Business: owner or proprietor ⓎⒻⓂ
Business: public relations or advertising ⓎⒻⓂ
Business: sales worker ⓎⒻⓂ
Carpenter ⓎⒻⓂ
Clergy or religious worker ⓎⒻⓂ
Clerical worker: secretary, stenographer, typist, or bookkeeper ⓎⒻⓂ
Clerical worker: other ⓎⒻⓂ
Commercial artist, designer, decorator ⓎⒻⓂ
Computer programmer or analyst ⓎⒻⓂ
Construction craftsmen, n.e.c.* ⓎⒻⓂ
Counselor: guidance, family or school ⓎⒻⓂ
Dentist (including orthodontist) ⓎⒻⓂ
Draftsman ⓎⒻⓂ
Driver: truck, taxi or bus ⓎⒻⓂ
Electrician ⓎⒻⓂ
Engineer ⓎⒻⓂ
Factory worker, n.e.c.* ⓎⒻⓂ
Farm or ranch laborer ⓎⒻⓂ
Farm or ranch owner or manager ⓎⒻⓂ
Foreman, n.e.c.* ⓎⒻⓂ
Forester, conservationist, fish or wildlife specialist ⓎⒻⓂ
Government official, administrator or politician ⓎⒻⓂ
Home economist or dietitian ⓎⒻⓂ
Homemaker (full-time) ⓎⒻⓂ
Lawyer or judge ⓎⒻⓂ
Librarian or archivist ⓎⒻⓂ
Laborer (unskilled or semi-skilled) ⓎⒻⓂ
Law enforcement officer ⓎⒻⓂ
Mathematician, statistician or actuary ⓎⒻⓂ
Mechanic, machinist or repairman ⓎⒻⓂ
Military (career) ⓎⒻⓂ
Nurse ⓎⒻⓂ
Optometrist ⓎⒻⓂ
Performing artist, musician or entertainer ⓎⒻⓂ
Pharmacist or pharmacologist ⓎⒻⓂ
Physician or surgeon ⓎⒻⓂ
Plumber ⓎⒻⓂ
Psychologist (clinician or therapist only) ⓎⒻⓂ
Scientific researcher ⓎⒻⓂ
Service worker: private household (maid, cook, etc.) ⓎⒻⓂ
Service worker: protective (other than law enforcement) ⓎⒻⓂ
Service worker: other ⓎⒻⓂ
Skilled tradesman, n.e.c.* ⓎⒻⓂ

*Not elsewhere classified

Continued in the next column →

Social, welfare or recreation worker ⓎⒻⓂ
Teacher, professor or administrator: college, university ⓎⒻⓂ
Teacher or administrator: secondary ⓎⒻⓂ
Teacher or administrator: elementary ⓎⒻⓂ
Teacher or education specialist: other than above ⓎⒻⓂ
Technician or technologist (health) ⓎⒻⓂ
Technician or technologist (other) ⓎⒻⓂ
Therapist (physical, occupational, speech) ⓎⒻⓂ
Veterinarian ⓎⒻⓂ
Writer, journalist, interpreter ⓎⒻⓂ
Other occupation, n.e.c.* ⓎⒻⓂ
Unemployed ⒻⓂ
Undecided Ⓨ

*Not elsewhere classified

MAKE SURE YOU HAVE ANSWERED ITEM 32

32. Current religious preference: ALL ZEROS

(Mark one in each column)

	Yours	Father's	Mother's
Baptist	Ⓨ	Ⓕ	Ⓜ
Congregational (U.C.C.)	Ⓨ	Ⓕ	Ⓜ
Eastern Orthodox	Ⓨ	Ⓕ	Ⓜ
Episcopal	Ⓨ	Ⓕ	Ⓜ
Jewish	Ⓨ	Ⓕ	Ⓜ
Latter Day Saints (Mormon)	Ⓨ	Ⓕ	Ⓜ
Lutheran	Ⓨ	Ⓕ	Ⓜ
Methodist	Ⓨ	Ⓕ	Ⓜ
Muslim	Ⓨ	Ⓕ	Ⓜ
Presbyterian	Ⓨ	Ⓕ	Ⓜ
Quaker (Society of Friends)	Ⓨ	Ⓕ	Ⓜ
Roman Catholic	Ⓨ	Ⓕ	Ⓜ
Seventh Day Adventist	Ⓨ	Ⓕ	Ⓜ
Unitarian-Universalist	Ⓨ	Ⓕ	Ⓜ
Other Protestant	Ⓨ	Ⓕ	Ⓜ
Other Religion	Ⓨ	Ⓕ	Ⓜ
None	Ⓨ	Ⓕ	Ⓜ

33. Mark one in each row:

① Disagree Strongly
② Disagree Somewhat
③ Agree Somewhat
④ Agree Strongly

	④	③	②	①
The Federal government is not doing enough to control environmental pollution	④	[✓ ③]	②	①
The Federal government is not doing enough to protect the consumer from faulty goods and services	④	[✓ ③]	②	①
State and Fed. governments should provide more money for private colleges and universities	④	[✓ ③]	②	①
The Federal government should help college students with more grants instead of loans	④	[✓ ③]	②	①
There is too much concern in the courts for the rights of criminals	④	[✓ ③]	②	①
People should not obey laws which violate their personal values	④	③	[✓ ②]	①
As long as they work hard, people should be paid equally regardless of ability or quality of work	④	③	[✓ ②]	①
The activities of married women are best confined to the home and family	④	③	[✓ ②]	①
A couple should live together for some time before deciding to get married	④	③	[✓ ②]	①
Parents should be discouraged from having large families	④	[✓ ③]	②	①
If two people really like each other, it's all right for them to have sex even if they've known each other for only a very short time	④	[✓ ③]	②	①
Women should receive the same salary and opportunities for advancement as men in comparable positions	④	[✓ ③]	②	①
Wealthy people should pay a larger share of taxes than they do now	④	③	[✓ ②]	①
Marijuana should be legalized	④	[✓ ③]	②	①
Large political campaign contributions from wealthy individuals should be outlawed	④	[✓ ③]	②	①
Realistically, an individual can do little to bring about changes in our society	④	③	[✓ ②]	①
Compared to most older people in their forties and fifties, young people these days are more idealistic	④	[✓ ③]	②	①
Young people these days understand more about sex than most older people	④	[✓ ③]	②	①
College officials have the right to regulate student behavior off campus	④	③	[✓ ②]	①
Faculty promotions should be based in part on student evaluations	④	[✓ ③]	②	①
College grades should be abolished	④	③	[✓ ②]	①
Colleges would be improved if organized sports were de-emphasized	④	③	[✓ ②]	①
Student publications should be cleared by college officials	④	③	[✓ ②]	①
College officials have the right to ban persons with extreme views from speaking on campus	④	③	[✓ ②]	①
Students from disadvantaged social backgrounds should be given preferential treatment in college admissions	④	③	[✓ ②]	①
Open admissions (admitting anyone who applies) should be adopted by all publicly supported colleges	④	③	[✓ ②]	①
Even if it employs open admissions, a college should use the same performance standards in awarding degrees to all students	④	[✓ ③]	②	①
The federal government should do more to discourage energy consumption	④	[✓ ③]	②	①
Students have the right to demonstrate to prohibit speakers from coming to campus	④	[✓ ③]	②	①

34. Below is a list of different undergraduate major fields grouped into general categories. Mark only one circle to indicate your probable field of study.

ARTS AND HUMANITIES
- Art, fine and applied ○
- English (language and literature) ○
- History ○
- Journalism ○
- Language and Literature (except English) ○
- Music ○
- Philosophy ○
- Speech and Drama ○
- Theology or Religion ○
- Other Arts and Humanities ○

BIOLOGICAL SCIENCE
- Biology (general) ○
- Biochemistry or Biophysics ○
- Botany ○
- Marine (Life) Science ○
- Microbiology or Bacteriology ○
- Zoology ○
- Other Biological Science ○

BUSINESS
- Accounting ○
- Business Admin. (general) ○
- Finance ○
- Marketing ○
- Management ○
- Secretarial Studies ○
- Other Business ○

EDUCATION
- Business Education ○
- Elementary Education ○
- Music or Art Education ○
- Physical Education or Recreation ○
- Secondary Education ○
- Special Education ○
- Other Education ○

ENGINEERING
- Aeronautical or Astronautical Eng. ○
- Civil Engineering ○
- Chemical Engineering ○
- Electrical or Electronic Engineering ○
- Industrial Engineering ○
- Mechanical Engineering ○
- Other Engineering ○

PHYSICAL SCIENCE
- Astronomy ○
- Atmospheric Science (incl. Meteorology) ○
- Chemistry ○
- Earth Science ○
- Marine Science (incl. Oceanography) ○
- Mathematics ○
- Physics ○
- Statistics ○
- Other Physical Science ○

PROFESSIONAL
- Architecture or Urban Planning ○
- Home Economics ○
- Health Technology (medical, dental, laboratory) ○
- Library or Archival Science ○
- Nursing ○
- Pharmacy ○
- Therapy (occupational, physical, speech) ○
- Other Professional ○

SOCIAL SCIENCE
- Anthropology ○
- Economics ○
- Geography ○
- Political Science (govt., international relations) ○
- Psychology ○
- Social Work ○
- Sociology ○
- Other Social Science ○

TECHNICAL
- Building Trades ○
- Data Processing or Computer Programming ○
- Drafting or Design ○
- Electronics ○
- Mechanics ○
- Other Technical ○

OTHER FIELDS
- Agriculture ○
- Communications (radio, T.V., etc.) ○
- Computer Science ○
- Forestry ○
- Law Enforcement ○
- Military Science ○
- Other Field ○
- Undecided ○

35. Indicate the importance to you personally of each of the following: (Mark one for each item)

	Ⓔ Essential	Ⓥ Very Important	Ⓢ Somewhat Important	Ⓝ Not Important
Becoming accomplished in one of the performing arts (acting, dancing, etc.)	Ⓔ	Ⓥ	Ⓢ	1
Becoming an authority in my field	Ⓔ	3	Ⓢ	Ⓝ
Obtaining recognition from my colleagues for contributions to my special field	Ⓔ	Ⓥ	2	Ⓝ
Influencing the political structure	Ⓔ	Ⓥ	2	Ⓝ
Influencing social values	Ⓔ	Ⓥ	2	Ⓝ
Raising a family	Ⓔ	3	Ⓢ	Ⓝ
Having administrative responsibility for the work of others	Ⓔ	Ⓥ	2	Ⓝ
Being very well off financially	Ⓔ	Ⓥ	2	Ⓝ
Helping others who are in difficulty	Ⓔ	3	Ⓢ	Ⓝ
Making a theoretical contribution to science	Ⓔ	Ⓥ	Ⓢ	1
Writing original works (poems, novels, short stories, etc.)	Ⓔ	Ⓥ	Ⓢ	1
Creating artistic work (painting, sculpture, decorating, etc.)	Ⓔ	Ⓥ	Ⓢ	1
Being successful in a business of my own	Ⓔ	Ⓥ	2	Ⓝ
Becoming involved in programs to clean up the environment	Ⓔ	Ⓥ	2	Ⓝ
Developing a meaningful philosophy of life	Ⓔ	3	Ⓢ	Ⓝ
Participating in a community action program	Ⓔ	Ⓥ	2	Ⓝ
Keeping up to date with political affairs	Ⓔ	Ⓥ	2	Ⓝ

36. What is your best guess as to the chances that you will: (Mark one for each item)

	Ⓥ Very Good Chance	Ⓢ Some Chance	Ⓛ Very Little Chance	Ⓝ No Chance
Change major field?	Ⓥ	3	Ⓛ	Ⓝ
Change career choice?	Ⓥ	3	Ⓛ	Ⓝ
Fail one or more courses?	Ⓥ	Ⓢ	2	Ⓝ
Graduate with honors?	Ⓥ	3	Ⓛ	Ⓝ
Be elected to a student office?	Ⓥ	Ⓢ	2	Ⓝ
Join a social fraternity, sorority, or club?	Ⓥ	3	Ⓛ	Ⓝ
Live in a coeducational dorm?	Ⓥ	3	Ⓛ	Ⓝ
Live in a commune while in college?	Ⓥ	Ⓢ	2	Ⓝ
Be elected to an academic honor society?	Ⓥ	Ⓢ	2	Ⓝ
Make at least a "B" average?	Ⓥ	3	Ⓛ	Ⓝ
Need extra time to complete your degree requirements?	Ⓥ	Ⓢ	2	Ⓝ
Need tutoring in some courses	Ⓥ	Ⓢ	2	Ⓝ
Have to work at an outside job during college?	Ⓥ	3	Ⓛ	Ⓝ
Seek vocational counseling?	Ⓥ	Ⓢ	2	Ⓝ
Seek individual counseling on personal problems?	Ⓥ	Ⓢ	2	Ⓝ
Get a bachelor's degree (B.A., B.S., etc.)?	4	Ⓢ	Ⓛ	Ⓝ
Drop out of this college temporarily (exclude transferring)?	Ⓥ	Ⓢ	2	Ⓝ
Drop out permanently (exclude transferring)?	Ⓥ	Ⓢ	2	Ⓝ
Transfer to another college before graduating?	Ⓥ	3	Ⓛ	Ⓝ
Be satisfied with your college?	4	Ⓢ	Ⓛ	Ⓝ
Find a job after graduation in the field for which you were trained?	4	Ⓢ	Ⓛ	Ⓝ
Get married while in college? (skip if married)	Ⓥ	○	2	Ⓝ
Get married within a year after college? (skip if married)	Ⓥ	Ⓢ	2	Ⓝ

The Laboratory for Research on Higher Education at UCLA actively encourages the colleges that participate in this survey to conduct local studies of their student bodies. If these studies involve collecting follow-up data, it is necessary for the institution to know the students' ID numbers so that follow-up data can be linked with the data from this survey. If your college asks for a tape copy of the data and signs an agreement to use it only for research purposes, do we have your permission to include your ID number in such a tape?

Yes ○ No ○

ALL ZEROS

37. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
38. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
39. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
40. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
41. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

The remaining circles are provided for items specially designed by your college rather than by the Laboratory for Research on Higher Education. If your college has chosen to use the circles, observe carefully the supplemental directions given you.

THANK YOU!

42. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
43. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
44. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
45. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
46. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

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NOTES

Note 1

The number of college IDs in CIRP record is the count of identifiable colleges in the student's CIRP record (cols. 1-4, 295-298, 312-315, and 329-332) giving a maximum of four. Following this variable are the institutiona data for each of the college codes. Where there is not a college code, the institutional data field for that college is blank. There may be instances in which there is no institutional data for a college. If this is the case, the record area for that college's data will be blank but this variable will not reflect the missing data, i.e., it will specify the total number of college codes listed on the CIRP record and not the total number of institutional data fields with data.

Note 2

The institutional data for a particular college code is 62 columns long and is prosent for all valid college choice codes. The four groups of 62 (cols. 408-655) are the institutional data for the four CIRP college codes, the six groups of 62 (cols. 684-1055) are the institutional data for the six college codes in the 12th grade test (SAT or ACT), the main source of these data is the 1972-73 (fiscal year '73) Higher Educational General Information Survey (HEGIS).

Note 3

This variable categorized the institution by race (col. 426), control (col. 427), type (col. 428), and selectivity (cols. 432-434). For further information refer to the value list for this variable. (page 32).

Note 4

An interaction variable which relates total enrollment with institutional selectivity, yielding a 1-9 value of prestige.* For further information refer to the value list for this variable (page 32).

*See A.W. Astin and C.B.T. Lee, The Invisible Colleges, (McGraw-Hill, 1971), Chapter 1.

Note 5

Selectivity is an estimate of the average academic ability of the entering class expressed as a SAT Verbal + Math score. The range is thus 400-1600. These estimates are based on data provided in several college guides** and on data reported previously in Astin, A. W., *Predicting Academic Performance in College*; New York: The Free Press, 1971. Most estimates were originally in the form of mean SAT Verbal (V) plus Mathematical (M) scores of entering freshmen. Mean ACT composite scores were converted into comparable mean SAT V+M scores (see Table 3-1 in above reference of Astin, 1971). These selectivity measures are more current, more accurate (i.e., most were provided directly by the institutions), and involve less missing data (i.e., fewer with unknown selectivity). For details of the revised measures, see A.W. Astin and J.W. Henson, "New Measures of College Selectivity," *Research in Higher Education*, 1977, *6*, 1-9.

**See A.W. Astin, *Predicting Academic Performance in College*, (New York: Free Press, 1971).

J. Cass and M. Birnbaum, *Comparative Guide to American Colleges*, (New York: Harper & Row, 1973).

College Division of Varron's Educational Series. *Barron's Profiles of American Colleges*, (Woodbury: Barron's Educational Series, 1974).

W.T. Furniss (ed.), *American Universities and Colleges*, (Washington: American Council on Education, 1972).

Note 6

This variable is the recoding of the institutional selectivity (from the preceeding 3 columns) into a nine category variable.

Note 7

This variable is the total institutional enrollment from the 72-73 HEGIS coded to a nine category variable.

Note 8

This variable is the percentage of the total institutional enrollment who are women (from the 72-73 HEGIS) coded to a nine category variable.

Note 9

This variable is the percentage of the total institutional enrollment who are graduate students (from the 72-73 HEGIS) coded into a nine category variable.

Note 10

Education and general expenditures (from the 72-73 HEGIS) were divided by the sum of undergraduate enrollment plus three times the graduate enrollment to yield a per student expenditure. (Graduate student enrollment was inflated by a factor of three to reflect the larger expenditures in this area). This expenditure was recoded to yield an eight category variable.

Note 11

Library expenditures (from the 72-73 HEGIS) were divided by the sum of undergraduate enrollment plus three times graduate enrollment to yield a per student expenditure. (Graduate student enrollment was inflated by a factor of three to reflect the larger expenditures in this area). This expenditure was recoded to yield a nine category variable.

Note 12

Value of land, buildings, and equipment (from the 72-73 HEGIS) was divided by the sum of undergraduate enrollment plus three times graduate enrollment to yield a per student expenditure. (Graduate student enrollment was inflated by a factor of three to reflect the larger expenditures in this area). This expenditure was recoded to yield a nine category variable.

Note 13

The sum of undergraduate enrollment plus three times graduate enrollment was divided by the number of faculty.
The value was then recoded to a nine category variable.

Note 14

Tuition and fees (from the 72-73 HEGIS) rounded to three digits (example: $1356 = 136).

Note 15

A collapsing of tuition and fees into nine categories.

Note 16

Earned degrees data from all relevant fields were summed and then divided by total BA degrees granted in 1972-73. For further information refer to the value list for these variables. (page 35.)

Note 17

This code reflects the institutional affiliation (public or private and, if private, religious affiliation). The source is the 1972-73 HEGIS ("Affiliation of institution and states as public and private").

Note 18

The distance is calculated from home to college zip code by converting each zip code into coordinates of latitude and longitude. Given these coordinates, it is possible to calculate the distance between two points on a sphere which may be converted to miles. If the distance to a college is computed as zero, the value "1" is assigned as "0" is used to indicate missing data. The method of converting zipcodes to latitude/longitude coordinates was accomplished using a tape provided by the National Technical Information Services.

Note 19 *

This variable is the mean selectivity of the instituional choice set from the PSAT record rounded to two digits.

Note 20 *

This variable, the mean coded enrollment of the institutional choice set from the PSAT record.

Note 21*

This variable is the mean tuition and fees of the institutional choice set from the PSAT record rounded to two digits. (tens of dollars).

Note 22 *

This variable is the mean distance in miles from home to those colleges in the institutional choice set from the PSAT record.

No Note 23

*If the student gave only one choice, the "mean" equals the data for the first choice.

Note 24

Values from SAT were recoded as follows:
1=sophomore → 4=other
2=junior → 1=junior
3=senior → 2=senior
4=1st yr. college → 3=college student
5=2nd yr. college → 3=college student
6=other → 4=other

Values from ACT were recoded as follows:
1=junior → 1=junior
3=senior → 2=senior
5=high school graduate → 4=other
7=college student → 3=college student
9=other → 4=other

No note 25

Note 26

The number of college IDs in the 12th grade record is the count of college IDs the student provided. Following this variable are the institutional data for each of these college codes. There is a maximum of six possible college codes. When there is not a college code, the institutional data field for that college is blank. There may be instances in which there is no institutional data for a college. If this is the case, the data area for that college will be blank, but this variable will not reflect the missing data (i.e., it will specify the total number of college codes listed on the 12th grade record rather than the number of institutional data fields with data).

Note 26A

The institutional data for a particular college code is 62 columns long and is present for all valid college choice codes. The two groups of 62 (cols. 1127-1350) are the institutional data for the two PSAT institutions, while the six groups of 62 (cols. 684-1055) are the six college codes in the 12th grade data (SAT or ACT). The main source of the institutional data is the 1972-73 (fiscal year '73) Higher Educational General Information Survey (HEGIS).

Note 27

This variable, the mean coded enrollment of the institutional choice set from the 12th grade record, has one decimal place.

Note 28

This variable, the mean coded enrollment of the institutional choice set from the 12th grade record, has one decimal place.

Note 29

This variable is the mean tuition and fees of the institutional choice set from the 12th grade record rounded to 2 digits (tens of dollars).

Note 30

This variable is the mean distance in miles from home to the colleges in the institutional choice set from the 12th grade record.

Note 31

If the source of the 12th grade record is ACT, the data are from the 1974-75 ACT Student Record File.
If the source of the 12th grade record is SAT, and there was only one administration, the data are from that administration. In the case of multiple SAT administrations, a priority of test dates was established in an attempt to utilize data from the early part of the senior year.
The following test dates are listed from most desired (1) to least desired (15) for selection. Fro multiple administrations the most recent test data was selected.

1) 12/74
2) 11/74
3) 10/74
4) 2/75
5) 4/75
6) 6/75
7) 6/74
8) 4/74
9) 2/74
10) 12/73
11) 11/73
12) 10/73
13) 6/73
14) 4/73
15) 2/73

The field is blank, but this note has been retained for your information.

Note 32

SAT verbal score (range 200-800) where available, otherwise ACT equivalent. The ACT equivalent was obtained by summing three ACT subtests (English, natural sciences, social sciences) and converting to SAT equivalent by equipercentile method (N=14865). The sum of the three (range 3-108) ACT subtests was used (rather than simply the ACT English subtest) because it resulted in a better correlation with the SAT verbal score (r=.82 vs. .69). If record had one or more of the ACT subtests missing, the entire record was dropped from the file. Conversion table shown below.

ACT Sum Eng & Nat Sci & Soc Sci	SAT Verbal Equivalent	ACT Sum Eng & Nat Sci & Soc Sci	SAT Verbal Equivalent
108	800	69	480
107	800	68	470
106	800	67	460
105	800	66	460
104	800	65	450
103	800	64	440
102	800	63	440
101	790	62	440
100	770	61	430
99	760	60	430
98	750	59	420
97	740	58	420
96	730	57	410
95	720	56	410
94	710	55	400
93	700	54	400
92	690	53	390
91	680	52	390
90	670	51	380
89	660	50	380
88	640	49	370
87	630	48	370
86	620	47	360
85	610	46	360
84	600	45	350
83	590	44	350
82	580	43	340
81	570	42	340
80	560	41	330
79	550	39	320
78	540	38	310
77	540	37	310
76	530	36	310
75	520	35	300
74	510	34	300
73	510	33	290
72	500	32	280
71	490	31	280
70	480	30	270

Note 32 (continued)

ACT Sum Eng & Nat Sci & Soc Sci	SAT Verbal Equivalent
29	260
28	260
27	250
26	250
25	240
24	230
23	230
22	220
21	220
20	210
19	210
18	210
17	210
16	200
15	200
14	200
13	200
12	200
11	200
1-10	200

Note 33

SAT math score (range 200-800) where available, otherwise ACT equivalent obtained by an equipercentile conversion of the ACT Mathematical subtest score (range 1-36) to SAT. Correlation between SAT-M and converted ACT-M is .85 (N = 14,000). Conversion table shown below.

ACT Math Score	SAT Math Equiv.	ACT Math Score	SAT Math Equiv.
36	780	18	440
35	750	17	430
34	730	16	410
33	710	15	390
32	700	14	380
31	680	13	370
30	660	12	360
29	640	11	350
28	610	10	340
27	590	9	330
26	560	8	330
25	530	7	320
24	510	6	300
23	500	5	290
22	480	4	280
21	470	3	270
20	460	2	260
19	450	1	240

Note 34

The SAT questionnaire did not contain an overall high school GPA item, instead it asked the student to report the most recent grades in six areas. A GPA was calculated by assigning percentage scores to each grade category as follows: A=95, B=85, C=75, D=65, F=55. The scores were then summed weighting English by 3, Math by 2, and all others by 1. The sum was divided by the number of grades reported, resulting in a mean calculated GPA in percentage from.

The ACT high school GPA was converted to SAT percentage equivalents by equipercentile method (N=14000). Questionnaire items and recoded values are shown below.

SAT

answering questions 6 through 11, please indicate the latest year-end or semester-end marks that you received in each subject taken since you began the ninth grade. After blackening the letter corresponding to your mark a subject, blacken the letter H if the mark was received in an honors, advanced, or accelerated course.

(A) Excellent (usually 90-100)
(B) Good (usually 80-89)
(C) Fair (usually 70-79)
(D) Passing (usually 60-69)
(F) Failing (usually 59 or below)
(G) Only "pass-fail" marks were assigned and I received a pass.
(H) The mark reported was in an honors, advanced, or accelerated course.

. English

7. Mathematics

. Foreign Languages

. Biological Sciences

0. Physical Sciences

1. Social Studies

ACT

32. My overall high school average is (was)

D- to D (0.5-0.9) 1
D to C- (1.0-1.4) 2
C- to C (1.5-1.9) 3
C to B- (2.0-2.4) 4
B- to B (2.5-2.9) 5
B to B+ (3.0-3.4) 6
A- to A (3.5-4.0) 7

SAT calculated percentage described above

ACT converted to SAT calculated percentage as follows:

ACT Code ⟶	SAT Conversion
7	93
6	87
5	83
4	78
3	74
2	71
1	68

Correlation between SAT GPA and converted ACT GPA is .77 (N=14,000).

Note 35 SAT income categories were collapsed to match ACT categories as follows:

SAT

23. What is the approximate income of your parents before taxes? Include taxable and nontaxable income from all sources.

(A) Less than $3,000 a year (about $60 a week or less)
(B) Between $3,000 and $5,999 a year (from $60 to $119 a week)
(C) Between $6,000 and $7,499 a year (from $120 to $149 a week)
(D) Between $7,500 and $8,999 a year (from $150 to $179 a week)
(E) Between $9,000 and $10,499 a year (from $180 to $209 a week)
(F) Between $10,500 and $11,999 a year (from $210 to $239 a week)
(G) Between $12,000 and $13,499 a year (from $240 to $269 a week)
(H) Between $13,500 and $14,999 a year (from $270 to $299 a week)
(I) Between $15,000 and $16,499 a year (from $300 to $329 a week)
(J) Between $16,500 and $17,999 a year (from $330 to $359 a week)
(K) Between $18,000 and $19,999 a year (from $360 to $399 a week)
(L) Between $20,000 and $21,999 a year (from $400 to $439 a week)
(M) Between $22,000 and $23,999 a year (from $440 to $479 a week)
(N) Between $24,000 and $25,999 a year (from $480 to $519 a week)
(O) Between $26,000 and $27,999 a year (from $520 to $559 a week)
(P) Between $28,000 and $30,000 a year (from $560 to $600 a week)
(Q) More than $30,000 a year ($600 or more a week)

SAT Value	ACT Value	RECODE Value
A	0	1=less than $3,000
B	1	2=$3,000 – 5,999
C	2	3=$6,000 – 7,499
D	3	4=$7,500 – 8,999
E, F	4	5=$9,000 – 11,999
G, H	5	6=$12,000 – 14,999
I, J, K	6	7=$15,000 – 19,999
L, M, N O, P, Q	7	8=$20,000 or more
	8	0=missing data

ACT

59. To plan financial aid programs for entering students, colleges need to know the financial background of their students. Please estimate as accurately as possible your family's income. (Indicate total income before taxes.)

Less than $3,000 0
$3,000 to $5,999 1
$6,000 to $7,499 2
$7,500 to $8,999 3
$9,000 to $11,999 4
$12,000 to $14,999 5
$15,000 to $19,999 6
$20,000 and over 7
I consider this information confidential 8

Note 36 SAT and ACT racial background items had the same categories but in different order.

SAT

The College Board wants to be sure that its tests and services are fair and useful to all candidates. If you answer questions 24 and 25, it will help the College Board evaluate and improve its tests and services. Your responses will also be reported to your school and to those colleges that can and will accept such information in order to be sure that their programs are fair and useful to students of all racial and ethnic backgrounds.

24. How do you describe yourself?

(A) American Indian
(B) Black or Afro-American or Negro
(C) Mexican-American or Chicano
(D) Oriental or Asian-American
(E) Puerto Rican
(F) White or Caucasian
(G) Other

ACT

65. Colleges often provide special educational programs and opportunities for students from particular racial or ethnic backgrounds. ACT releases this information only to those institutions that request it. If your background is listed below and you wish to identify yourself, please respond to this item. You are not required to provide this information.

Afro-American Black. 1
American Indian Native American Aleutian (Eskimo). 2
Caucasian American White. 3
Mexican American or Chicano. 4
Oriental American. 5
Puerto-Rican or Spanish-speaking American. 6
Other. 7
I prefer not to respond. 8

SAT Value	ACT Value	RECODE Value
F	3	1 = White
B	1	2 = Black
A	2	3 = American Indian
D	5	4 = Oriental
C	4	5 = Mexican American
E	6	6 = Puerto Rican-American
G	7	7 = other
	8	0 = missing data

Note 37 The SAT and ACT English language items were phrased somewhat differently, but had similar response categories.

SAT

25. Is English your best language?

(Y) Yes (N) No

ACT

64. Is English the language most frequently spoken in your home?

yes. . . . . .y 2
no. . . . . .n 1
I prefer not to respond. 0 0

SAT	ACT	RECODE
Y	Y	1 = no
N	N	2 = yes
	0	0 = missing data

Note 38 The ACT number of dependents item had more response categories than the SAT item. Collapsing the top ACT categories resulted in the following recode.

SAT

26. How many of your brothers or sisters are dependent on your parents or legal guardian for financial support?

(A) None (B) One (C) Two (D) Three
(E) Four (F) Five (G) Six or more

ACT

61. How many brothers and sisters under 21 years of age do you have?

None	0
One	1
Two	2
Three	3
Four	4
Five	5
Six	6
Seven	7
Eight	8
Nine or more	9

SAT	ACT	RECODE
A	0	1 = none
B	1	2 = one
C	2	3 = two
D	3	4 = three
E	4	5 = four
F	5	6 = five
G	6, 7, 8, 9	7 = six or more

Note 39 The SAT residence item included separate response categories for single-sex and coed dorms which were collapsed to accommodate the ACT dorm category.

SAT

30. Where do you prefer to live during your first two years in college?

(A) At home
(B) Single-sex dorm
(C) Coed dorm
(D) Fraternity or sorority house
(E) On-campus apartment
(F) Off-campus apartment

ACT

4. Upon entering college, I plan to live in

residence hall 1
off-campus room or apartment. . . 2
parent's or relatives home. . . . 3
married student housing. 4
fraternity or sorority. 5

SAT Value	ACT Value	RECODE Value
A	3	1 = parents' home
B, C	1	2 = residence hall
D	5	3 = fraternity or sorority
E	4	4 = other campus housing
F	2	5 = off-campus apartment

Note 40 The ACT item listed many types of private high schools which were collapsed into one category to correspond to the SAT "private" category.

SAT	ACT
2. What kind of high school are you attending? (A) Public (B) Private	78. The high school from which I will (did) graduate can be best described as a public high school. . . . . .1 Catholic high school. . . . . . . .2 private independent school. . . . .3 private denominational school . . .4 military school. . . . . 5 other. 6

SAT Value	ACT VAlue	RECODE Value
A	1	1 = public
B	2, 3, 4, 5, 6	2 = private or other

Note 41 The SAT and ACT items on type of high school program were similar, resulting in a simple recode.

SAT

3. Which of the following best describes your present high school program?

(A) Academic or college preparatory

(B) General

(C) Career-oriented (business, vocational, industrial arts)

(D) Other

ACT

83. I would describe my high school curriculum or program as

business or commercial	1
vocational-occupational	2
college preparatory	3
other or general	4

SAT Value	ACT Value	RECODE Value
A	3	1 = college preparatory
C	1, 2	2 = business or vocational
B, D	4	3 = general or other

Note 42 Response categories for the SAT and ACT items on high school class size were so different that the recoded common item could retain only two categories.

SAT

4. About how many students are there in your high school class?

(A) Fewer than 100 (B) 100-249 (C) 250-499
(D) 500-749 (E) 750 or more

ACT

79. The number of students in my high school graduating class is (was)

fewer than 25. 1
25-99. 2
100-199. 3
200-399. 4
400-599. 5
600-899. 6
900 or more. 7

SAT Value	ACT Value	RECODE Value
A	1, 2	1 = fewer than 100
B, C, D, E	3, 4, 5, 6, 7	2 = 100 or more

Note 43 From the SAT and ACT items which appear below, eight dummy (1=no 2=yes) variables were created for the high school and college extracurricular activities. Because the ACT list of activities was longer than the SAT list, the items were collapsed as follows:

SAT

Questions 32 and 33 concern your interests in extracurricular activities in high school and your plans to participate in college.

32. Blacken the letter for each activity in which you participated while in high school.

- (A) Athletics – interscholastic, intramural, or community
- (B) Ethnic or racial activities or organizations
- (C) Journalism, debating, or dramatic activities
- (D) Music – band, chorus, or orchestra
- (E) Preprofessional or departmental clubs – for example, Future Teachers of America, American Society of Civil Engineers
- (F) Religious activities or organizations
- (G) Social clubs and community organizations
- (H) Student government

33. Blacken the letter for each activity, using the listing in question 32, to indicate activities in which you plan to participate while in college.

ACT

[illegible]

Items 99-114 list student extracurricular activities. Please answer Y or N to *each* item on the list.

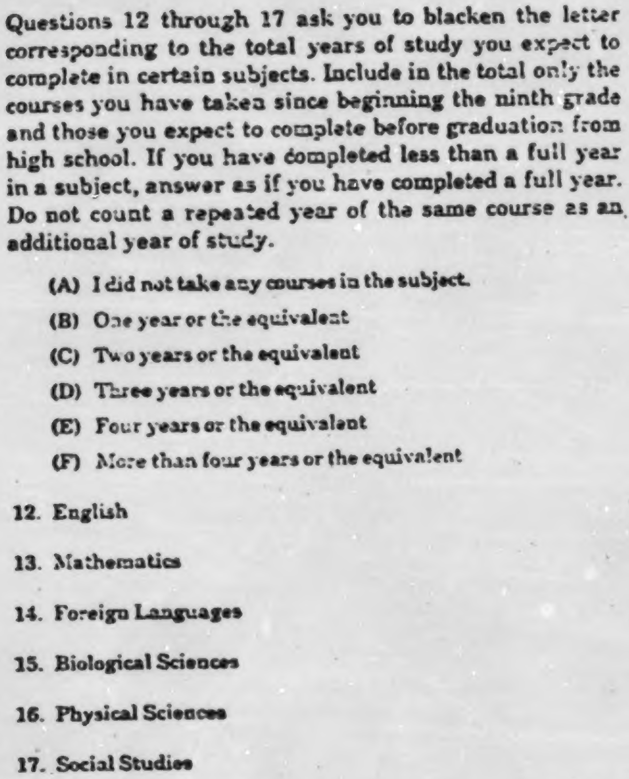
Yes, I participated in this activity ....Y
No, I did not participate in this activity....................N

99. Instrumental music (band, orchestra)
100. Vocal music
101. Student government
102. Publications (newspaper, yearbook, literary magazine)
103. Debate
104. Departmental clubs (science club, math club, etc.)
105. Dramatics, theater
106. Religious organizations
107. Racial or ethnic organizations
108. Intramural athletics
109. Varsity athletics
110. Political organizations
111. Radio-TV
112. Fraternity, sorority, or other social clubs
113. Special interest groups (ski club, sailing club, judo club, ca section, drill teams, etc.)
114. School or community service organizations

SAT	ACT	Dummy Variable
A	108, 109	athletics
B	107	ethnic or racial
C	102, 103, 105	journalism, debate, drama
D	99, 100	music
E	104	departmental or pre-professional
F	106	religious
G	112, 113, 114	social clubs and community organizations
H	101	student government

Note 44 From the SAT and ACT items which appear below, five variables (range 1-5) were created for years of study in each of five subject areas. Due to slight differences in the two items, the subject areas and the years of study response categories were recoded as shown below:

SAT

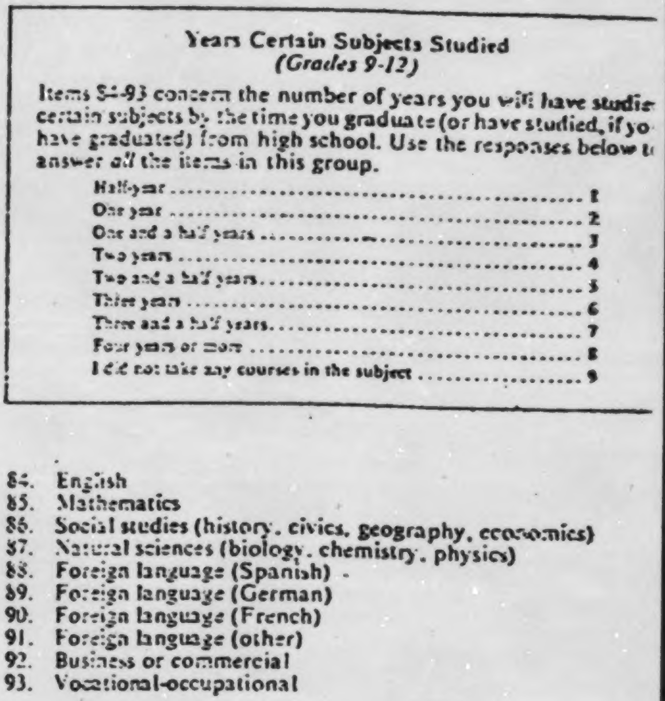


Questions 12 through 17 ask you to blacken the letter corresponding to the total years of study you expect to complete in certain subjects. Include in the total only the courses you have taken since beginning the ninth grade and those you expect to complete before graduation from high school. If you have completed less than a full year in a subject, answer as if you have completed a full year. Do not count a repeated year of the same course as an additional year of study.

(A) I did not take any courses in the subject.
(B) One year or the equivalent
(C) Two years or the equivalent
(D) Three years or the equivalent
(E) Four years or the equivalent
(F) More than four years or the equivalent

12. English
13. Mathematics
14. Foreign Languages
15. Biological Sciences
16. Physical Sciences
17. Social Studies

ACT



Years Certain Subjects Studied
(Grades 9-12)

Items 84-93 concern the number of years you will have studie certain subjects by the time you graduate (or have studied, if yo have graduated) from high school. Use the responses below t answer *all* the items in this group.

Half-year	1
One year	2
One and a half years	3
Two years	4
Two and a half years	5
Three years	6
Three and a half years	7
Four years or more	8
I did not take any courses in the subject	9

84. English
85. Mathematics
86. Social studies (history, civics, geography, economics)
87. Natural sciences (biology, chemistry, physics)
88. Foreign language (Spanish)
89. Foreign language (German)
90. Foreign language (French)
91. Foreign language (other)
92. Business or commercial
93. Vocational-occupational

SAT Item	ACT Item	Created Variable	Years of Study SAT	Years of Study ACT	RECODE
12	84	English	A	9	1 = none
13	85	Mathematics	B	1, 2	2 = one year or les
14	88, 89, 90, 91	Foreign language	C	3, 4	3 = up to two years
			D	5, 6	4 = up to three yea
15, 16	87	Natural sciences	E, F,	7, 8	5 = more than three yea

Note 45 SAT and ACT degree aspiration items were so similar that a simple conversion to a new numbering scheme was all that was required.

SAT

23. What is the highest level of education you plan to complete beyond high school?

(A) A two-year specialized training program (for example, electronics, laboratory technician)

(B) A two-year liberal arts degree (Associate of Arts)

(C) Bachelor's degree (B.A. or B.S.)

(D) Master's degree (M.A. or M.S.)

(E) Doctor's degree or other professional degree (such as Ph.D. or M.D.)

(F) Other or undecided

ACT

16. What is the highest level of education you expect to complete?

Vocational or technical program (less than 2 years) 1
Two-year college degree 2
Bachelor's degree 3
One or 2 years of graduate study (MA, MBA, etc.) 4
Professional level degree (PhD, MD, LLB,
or JD, etc.) 5
Other 6

SAT Value	ACT Value	RECODE Value
A	1	1 = Vocational Program
B	2	2 = Associate (two-year)
C	3	3 = Bachelor
D	4	4 = Master
E	5	5 = Doctoral or Professional
F	6	6 = Other or undecided

Note 46 The SAT remedial help item included a response category for part-time work placement which was not included in the ACT item and had to be dropped. This resulted in the scheme shown below which created six dummy variables (1=no, 2=yes).

SAT

31. You may want to receive help outside regular course work from the college you plan to attend. If so, blacken the letter for each area in which you need help.

(A) Counseling about educational and vocational plans and opportunities
(B) Improving mathematical ability
(C) Finding part-time work
(D) Counseling about personal problems
(E) Increasing reading ability
(F) Developing good study habits
(G) Improving writing ability

ACT

Many colleges offer special assistance for the individual development of students. You may wish to seek such assistance. Please respond Y or N to each item.

19. I need help deciding on my educational and vocational plans.

20. I need help in expressing my ideas in writing.

21. I need help in improving my reading speed and comprehension.

22. I need help in improving my study skills.

23. I need help in improving my mathematical skills.

24. I would like personal counseling.

SAT Item	ACT Item	Created Variables
A	19	Educational and vocational plans
G	20	Writing
E	21	Reading
F	22	Study skills
B	23	Mathematics
D	24	Personal counseling

Note 47: This variable was collapsed (from both SAT and ACT tests) to 135 categories. The following lists indicate what each source value (ACT or SAT) became when recoded.

ATP Major Fields of Study Recode List

100	AGRICULTURE	001	AGRICULTURE
101	agriculture economics	002	agriculture economics
102	agronomy, field crops	003	agronomy, field crops
103	animal science	004	animal science
104	dairy science	004	animal science
105	fish and game, wildlife management	005	fish and game, wildlife management
106	food science	006	food science
107	horticulture	007	horticulture
108	landscaping	007	horticulture

109	ARCHITECTURE AND ENVIRONMENTAL DESIGN	008	ARCHITECTURE
110	architecture	008	ARCHITECTURE
111	city planning	008	ARCHITECTURE
112	urban development	008	ARCHITECTURE

113	ART	009	ART
114	art history	010	art history
115	commercial art	011	commercial art
116	design	009	ART
117	fashion design	009	ART
118	graphic arts	012	graphic arts
119	interior decorating	013	interior decorating
120	photography	014	photography
121	printing	012	graphic arts
122	studio art	009	ART

123	BIOLOGICAL SCIENCES	015	BIOLOGICAL SCIENCES
124	bacteriology	015	BIOLOGICAL SCIENCES
125	biochemistry	016	biochemistry
126	biology	017	biology
127	biophysics	015	BIOLOGICAL SCIENCES
128	botany	018	botany
129	ecology	019	ecology
130	marine biology	117	oceanography
131	physiology	015	BIOLOGICAL SCIENCES
132	zoology	020	zoology

Note 47 (continued)

133	BUSINESS AND COMMERCE	021	BUSINESS AND COMMERCE
134	accounting	022	accounting
135	advertising	023	advertising
136	business management and administration	024	business management and administration
137	court reporting	131	TRADE AND VOCATIONAL
138	finance and banking	025	finance and banking
139	hotel and restaurant administration	026	hotel and restaurant administration
140	industrial management	027	industrial management
141	marketing	029	sales and retailing
142	real estate	028	real estate
143	sales and retailing	029	sales and retailing
144	secretarial duties	030	secretarial studies
145	transportation and commerce	031	transportation and commerce

146	COMMUNICATIONS	032	COMMUNICATIONS
147	communications	032	COMMUNICATIONS
148	film	032	COMMUNICATIONS
149	journalism	033	journalism
150	radio and television	034	radio and television

151	COMPUTER SCIENCE AND SYSTEMS ANALYSIS	035	COMPUTER SCIENCE AND SYSTEMS ANALYSIS
152	computer science	036	computer science
153	data processing	037	data processing
154	systems analysis	038	systems analysis

155	EDUCATION	039	EDUCATION
156	agricultural education	040	agricultural education
157	art education	041	art education
158	business education	042	business education
159	child development and nursery education	044	elementary education
160	education of exceptional children	043	special education
161	education of the deaf	043	special education
162	education of the mentally retarded	043	special education
163	elementary education	044	elementary education
164	general education	039	EDUCATION
165	health education	045	health education

Note 47 (continued)

166	home economics education	099	HOME ECONOMICS
167	industrial arts education	046	industrial arts education
168	music education	047	music education
169	physical education	048	physical education
170	recreation	048	physical education
171	secondary education	049	secondary education
172	speech and hearing	050	speech and hearing
173	vocational trade and industrial education	046	industrial arts education

174	ENGINEERING	051	ENGINEERING
175	aerospace and aeronautical engineering	052	aerospace and aeronautical engineering
176	agricultural engineering	053	agricultural engineering
177	air-conditioning engineering	054	air-conditioning engineering
178	architectural engineering	055	architectural engineering
179	ceramic engineering	051	ENGINEERING
180	chemical engineering	056	chemical engineering
181	civil engineering	057	civil engineering
182	construction and transportation	051	ENGINEERING
183	drafting	058	drafting
184	electrical engineering	059	electrical engineering
185	engineering aide	051	ENGINEERING
186	engineering design	051	ENGINEERING
187	engineering sciences	051	ENGINEERING
188	industrial and management engineering	060	petroleum engineering
189	industrial labotarory technology	051	ENGINEERING
190	instrumentation technology	051	ENGINEERING
191	materials science	051	ENGINEERING
192	mechanical engineering	061	mechanical engineering
193	metallurgical engineering	062	metallurgical engineering
194	mining and mineral engineering	063	mining and mineral engineering
195	naval architecture and marine engineering	064	naval architecture and marine engineeri
196	nuclear technology	065	nuclear technology
197	petroleum engineering	066	petroleum engineering
198	plastics technology	051	ENGINEERING
199	quality control technology	051	ENGINEERING
200	surveying	051	ENGINEERING
201	textile engineering	051	ENGINEERING

202	ENGLISH AND LITERATURE	067	ENGLISH AND LITERATURE
203	creating writing	068	creative writing
204	English	067	ENGLISH AND LITERATURE
205	literature	069	literature
206	speech	070	speech

207	ETHNIC STUDIES	071	ETHNIC STUDIES
208	American Indian studies	071	ETHNIC STUDIES
209	black studies	071	ETHNIC STUDIES
210	Mexican American studies	071	ETHNIC STUDIES
211	Spanish-American studies	071	ETHNIC STUDIES
212	FOREIGN LANGUAGES	072	FOREIGN LANGUAGES
213	Classical languages	073	Classical languages
214	Eastern languages	072	FOREIGN LANGUAGES
215	French	074	French
216	German	075	German
217	Italian	076	Italian
218	linguistics	077	linguistics
219	Russian	078	Russian
220	Spanish	079	Spanish
221	FORESTRY AND CONSERVATION	080	FORESTRY AND CONSERVATION
222	GEOGRAPHY	081	GEOGRAPHY
223	HEALTH AND MEDICAL PROFESSIONS	082	HEALTH AND MEDICAL PROFESSIONS
224	dental assisting	083	dental assisting
225	dental hygiene	084	dental hygiene
226	dental technology	085	dental technology
227	health and safety	086	health and safety
228	laboratory technology	088	medical technology
229	medical assisting	087	medical assisting
230	medical records librarian	082	HEALTH AND MEDICAL PROFESSIONS
231	medical technology	088	medical technology
232	nursing-practical	089	nursing-practical
233	nursing-registered	090	nursing-registered
234	occupational therapy	091	occupational therapy
235	optometry	092	optometry
236	pharmacy	093	pharmacy
237	physical therapy	094	physical therapy
238	predentistry	095	predentistry
239	premedicine	096	premedicine
240	radiology and X-ray technology	097	radiology and x-ray technology

Note 47 (continued)

241	HISTORY AND CULTURES	098	HISTORY AND CULTURES
242	American	098	HISTORY AND CULTURES
243	ancient	098	HISTORY AND CULTURES
244	area and regional	098	HISTORY AND CULTURES
245	European	098	HISTORY AND CULTURES
246	HOME ECONOMICS	099	HOME ECONOMICS
247	clothing and textiles	100	clothing and textiles
248	family relations	101	family relations
249	food and nutrition	102	food and nutrition
250	infant and child care	103	infant and child care
251	institution management	104	institution management
252	LIBRARY SCIENCE	039	EDUCATION
253	MATHEMATICS	105	MATHEMATICS
254	statistics	106	statistics
255	MILITARY SCIENCE	107	MILITARY SCIENCE
256	air science	107	MILITARY SCIENCE
257	merchant marine	107	MILITARY SCIENCE
258	military science-army	107	MILITARY SCIENCE
259	naval science	107	MILITARY SCIENCE
260	MUSIC	108	MUSIC
261	composition and theory	108	MUSIC
262	instrumental music	108	MUSIC
263	music history	109	music history
264	voice	108	MUSIC

Note 47 (continued)

265	PHILOSOPHY AND RELIGION	110	PHILOSOPHY
266	philosophy	110	PHILOSOPHY
267	religion	111	religion
268	scholastic philosophy	111	religion
269	theology	111	religion

270	PHYSICAL SCIENCES	112	PHYSICAL SCIENCES
271	astronomy	113	astronomy
272	chemistry	114	chemistry
273	earth science	115	earth science
274	geology	116	geology
275	meteorology	112	PHYSICAL SCIENCES
276	oceanography	117	oceanography
277	physical sciences	112	PHYSICAL SCIENCES
278	physics	118	physics

279	PSYCHOLOGY	119	PSYCHOLOGY
280	child psychology	119	PSYCHOLOGY
281	experimental psychology	119	PSYCHOLOGY
282	general psychology	119	PSYCHOLOGY
283	social psychology	119	PSYCHOLOGY

284	SOCIAL SCIENCES	120	SOCIAL SCIENCES
285	anthropology	121	anthropology
286	correction administration	124	police science
287	economics	122	economics
288	fire science	131	TRADE AND VOCATIONAL
289	foreign service	123	international relations
290	industrial relations	027	industrial management
291	international relations	123	international relations
292	police science	124	police science
293	political science	125	political science
294	public administration	126	public administration
295	social work	127	social work
296	sociology	128	sociology

297	THEATER ARTS	129	DRAMATIC ARTS
298	dance	130	dance
299	drama	129	DRAMATIC ARTS
300	theater arts	129	DRAMATIC ARTS

301	TRADE AND VOCATIONAL	131	TRADE AND VOCATIONAL
302	airline hostess	131	TRADE AND VOCATIONAL
303	automotive maintenance	132	automotive maintenance
304	aviation maintenance	133	aviation maintenance
305	building construction	131	TRADE AND VOCATIONAL
306	carpentry	134	carpentry
307	cosmetology	131	TRADE AND VOCATIONAL
308	mortuary service	131	TRADE AND VOCATIONAL

309	OTHER	135	UNDECIDED AND OTHER

310	UNDECIDED	135	UNDECIDED AND OTHER

ACT Major Fields of Study Recode List

100	AGRICULTURE, general	001	AGRICULTURE
101	Agricultural Business	002	agriculture economics
102	Agricultural Economics	002	agriculture economics
103	Agricultural and Farm Management (farming and ranching)	005	fish and game, wildlife management
104	Agriculture, Forestry, and Wildlife Technologies	001	AGRICULTURE
105	Agronomy (field crops and crop management)	003	agronomy, field crops
106	Animal Science (husbandry)	004	animal science
107	Fish, Game, and Wildlife Management	005	fish and game, wildlife management
108	Food Science and Technology	006	food science
109	Forestry	080	FORESTRY AND CONSERVATION
110	Horticulture/Ornamental Horticulture	007	horticulture
111	Natural Resources Management (soil conservation)	080	FORESTRY AND CONSERVATION

120	ARCHITECTURE, general	008	ARCHITECTURE
121	Architecture Technology	008	ARCHITECTURE
122	City, Community, and Regional Planning	008	ARCHITECTURE
123	Environmental Design, general	008	ARCHITECTURE
124	Interior Design	013	interior decorating

130	BIOLOGICAL SCIENCES, general	015	BIOLOGICAL SCIENCES
131	Biology	017	biology
132	Biochemistry	016	biochemistry
133	Botany	018	botany
134	Ecology	019	ecology
135	Microbiology	015	BIOLOGICAL SCIENCES
136	Zoology	020	zoology

140	BUSINESS AND COMMERCE, general	021	BUSINESS AND COMMERCE
141	Accounting	022	accounting
142	Banking and Finance	025	finance and banking
143	Business Economics	021	BUSINESS AND COMMERCE
144	Business Management and Administration	024	business management and administration

145	Food Marketing	026	hotel and restaurant administration
146	Hotel and Restaurant Management	026	hotel and restaurant administration
147	Labor and Industrial Relations	027	industrial management
148	Office Management	024	business management and administration
149	Marketing and Purchasing (sales and retailing)	029	sales and retailing
150	Real Estate and Insurance	028	real estate
151	Recreation and Tourism	021	BUSINESS AND COMMERCE
152	Secretarial Studies	030	secretarial studies
153	Transportation and Public Utilities	031	transportation and commerce

160	COMMUNICATIONS, general	032	COMMUNICATIONS
161	Journalism	033	journalism
162	Radio/Television (related to broadcasting)	034	radio and television
163	Advertising	023	advertising

170	COMPUTER AND INFORMATION SCIENCES, general	035	COMPUTER SCIENCE AND SYSTEMS ANALYSIS
171	Computer Programming	036	computer science
172	Information Systems and Sciences	036	computer science
173	Systems Analysis	038	systems analysis
174	Data Processing Technology	037	data processing
175	Computer Operating	037	data processing
176	Data Systems Repair	035	COMPUTER SCIENCE AND SYSTEMS ANALYSIS

180	EDUCATION, general	039	EDUCATION
181	Agricultural Education	040	agricultural education
182	Art Education	041	art education
183	Business, Commerce, and Distributive Education	042	business education
184	Elementary Education	044	elementary education
185	English Education	067	ENGLISH AND LITERATURE
186	Home Economics Education	099	HOME ECONOMICS
187	Industrial Arts, Vocational/ Technical Education	046	industrial arts education
188	Mathematics Education	105	MATHEMATICS
189	Music Education	047	music education
190	Physical Education	048	physical education

191	Science Education	039	EDUCATION
192	Secondary Education, general	049	secondary education
193	Social Science Education	039	EDUCATION
194	Special Education	043	special education
195	Speech Education	050	speech and hearing

200	ENGINEERING, general	051	ENGINEERING
201	Aerospace, Aeronautical, and Astronautical	052	aerospace and aeronautical engineering
202	Agricultural Engineering	053	agricultural engineering
203	Architectural Engineering	055	architectural engineering
204	Chemical Engineering	056	chemical engineering
205	Civil Engineering	057	civil engineering
206	Electrical, Electronics, and Communications Engineering	059	electrical engineering
207	Environmental and Ecological Engineering	057	civil engineering
208	Geological Engineering	051	ENGINEERING
209	Industrial and/or Management Engineering	060	industrial and management engineering
210	Mechanical Engineering	061	mechanical engineering
211	Metallurgical and Materials Engineering	062	metallurgical engineering
212	Mining and Mineral Engineering	063	mining and mineral engineering
213	Nuclear Engineering	065	nuclear technology
214	Ocean Engineering	064	naval architecture and marine engineerin
215	Petroleum Engineering	066	industrial and management engineering

220	FINE AND APPLIED ARTS, general	009	ART
221	Applied Design (ceramics, weaving, commercial art)	011	commercial art
222	Art (painting, drawing, sculpture)	009	ART
223	Art History and Appreciation	010	art history
224	Dance	130	dance
225	Dramatic Arts (theater arts)	129	DRAMATIC ARTS
226	Music (liberal arts)	108	MUSIC
227	Music (performing, composition, theory)	108	MUSIC
228	Music History and Appreciation	109	music history
229	Photography/Cinematography	014	photography

Note 47 (continued)

230	FOREIGN LANGUAGES, general	072	FOREIGN LANGUAGES
231	French	074	French
232	German	075	German
233	Italian	076	Italian
234	Latin	073	Classical Languagues
235	Spanish	079	Spanish
236	Russian	078	Russian

240	HEALTH PROFESSIONS	082	HEALTH AND MEDICAL PROFESSIONS
241	Dentistry	095	predentistry
242	Dental Assistant	083	dental assisting
243	Dental Hygiene	084	dental hygiene
244	Dental Lab Technology	085	dental technology
245	Environmental Health Technologies	086	health and safety
246	Medicine	096	premedicine
247	Medical Assistant or Medical Office Assistant	087	medical assisting
248	Medical or Laboratory Technology	088	medical technology
249	Nursing (Registered)	090	nursing-registered
250	Nursing (licensed practical nurse)	089	nursing-practical
251	Occupational Therapy	091	occupational therapy
252	Optometry	092	optometry
253	Pharmacy	093	pharmacy
254	Physical Therapy	094	physical therapy
255	Public Health	086	health and safety
256	Radiology	097	radiology and x-ray technology
257	X-Ray Technology	097	radiology and x-ray technology
258	Surgical Technology (surgeon's assistant, etc.)	082	HEALTH AND MEDICAL PROFESSIONS
259	Veterinary Medicine	015	BIOLOGICAL SCIENCES

260	HOME ECONOMICS, general	099	HOME ECONOMICS
261	Clothing and Textiles	100	clothing and textiles
262	Consumer Economics and Home Management	101	family relations
263	Family Relations and Child Development	103	infant and child care
264	Foods and Nutrition (including dietetics)	102	food and nutrition
265	Institutional Management	104	institution management

270	LETTERS (Humanities), general	067	ENGLISH AND LITERATURE
271	Classics	073	Classical Languages
272	Comparative Literature	069	literature
273	Creative Writing	068	creative writing
274	English, general	067	ENGLISH AND LITERATURE
275	Linguistics	077	linguistics
276	Literature, English	069	literature
277	Philosophy	110	PHILOSOPHY
278	Religion	111	religion
279	Speech, Debate, Forensic Science	070	speech
280	MATHEMATICS, general	105	MATHEMATICS
281	Applied Mathematics	105	MATHEMATICS
282	Statistics (mathematical and theoretical)	106	statistics
285	PHYSICAL SCIENCE, general	112	PHYSICAL SCIENCES
286	Astronomy	113	astronomy
287	Chemistry	114	chemistry
288	Earth Sciences	115	earth science
289	Geology	116	geology
290	Oceanography	117	oceanography
291	Physics	118	physics
300	COMMUNITY SERVICE, general	127	social work
301	Law Enforcement and Correction (police science)	124	police science
302	Parks and Recreation Management	126	public administration
303	Public Administration	126	public administration
304	Social Work	127	social work
305	Military	107	MILITARY SCIENCE
310	SOCIAL SCIENCES, general	120	SOCIAL SCIENCES
311	Anthropology	121	anthropology
312	Area Studies (American Civilization, American Studies, etc.)	120	SOCIAL SCIENCES
313	Economics	122	economics

314	Ethnic Studies (Asian Studies, Black Studies, Chicano Studies, etc.)	071	ETHNIC STUDIES
315	Geography	081	GEOGRAPHY
316	History	098	HISTORY AND CULTURES
317	International Relations	123	international relations
318	Law (prelaw)	120	SOCIAL SCIENCES
319	Political Science	125	political science
320	Psychology	119	PSYCHOLOGY
321	Sociology	128	sociology
330	TRADE, INDUSTRIAL, AND TECHNICAL, general	131	TRADE AND VOCATIONAL
331	Agricultural Mechanics and Technology	001	AGRICULTURE
332	Air-Conditioning, Refrigeration, and Heating Technology	054	air-conditioning engineering
333	Aeronautical and Aviation Technology	133	aviation maintenance
334	Appliance Repair	131	TRADE AND VOCATIONAL
335	Automobile Body Repair	132	automotive maintenance
336	Automobile Mechanics	132	automotive maintenance
337	Business Machine Maintenance	131	TRADE AND VOCATIONAL
338	Carpentry and Construction	134	TRADE AND VOCATIONAL
339	Drafting/Engineering Graphics	058	drafting
340	Electricity and Electronics	131	TRADE AND VOCATIONAL
341	Engineering Technology - Aeronautical	051	ENGINEERING
342	Engineering Technology - Automotive	051	ENGINEERING
343	Engineering Technology - Civil	051	ENGINEERING
344	Engineering Technology - Industrial/ Manufacturing	051	ENGINEERING
345	Engineering Technology - Mechanical	061	mechanical engineering
346	Graphic Arts (printing, typesetting)	012	graphic arts
347	Heavy Equipment Operating	131	TRADE AND VOCATIONAL
348	Dry Cleaning, Laundry, and Clothing Technology	131	TRADE AND VOCATIONAL
349	Industrial Arts	131	TRADE AND VOCATIONAL
350	Leatherworking (shoe repair, etc.)	131	TRADE AND VOCATIONAL
351	Machinework (tool and die, etc.)	131	TRADE AND VOCATIONAL
352	Masonry (brick, cement, stone, etc.)	131	TRADE AND VOCATIONAL
353	Metalworking	131	TRADE AND VOCATIONAL
354	Plumbing and Pipefitting	131	TRADE AND VOCATIONAL
355	Radio/TV Repair	131	TRADE AND VOCATIONAL
356	Small-Engine Repair	131	TRADE AND VOCATIONAL
357	Upholstering	131	TRADE AND VOCATIONAL
358	Watch Repair and other Instrument Maintenance and Repair	131	TRADE AND VOCATIONAL
359	Welding	131	TRADE AND VOCATIONAL
360	Woodworking (cabinetmaking, millwork)	131	TRADE AND VOCATIONAL

370	GENERAL STUDIES	135	UNDECIDED & OTHER

000	Undecided

END OF NOTE 47

Note 48 The variable is a collapsed set of values from college major field of study (col. 1110-1112). Each of the values listed on the SAT and ACT "major field of study" list was first recoded by the method for college major field of study and then collapsed into the 27 major categories of fields. For codes, see pages 39-42.

Note 49 Although both the SAT and ACT included five response categories for the advanced placement items, only four of the categories were common to both. Four variables were created as shown:

SAT

Do you plan to apply for placement in advanced courses, course credit, or exemption from required courses in certain fields of college study? Mark the letter for each field in which you plan to apply.

(A) English
(B) Mathematics
(C) Foreign Languages
(D) Sciences
(E) History

ACT

Advanced Placement, Accelerated or Honors Courses

While in high school, I was enrolled in advanced placement, accelerated or honors courses in the following areas. Use the responses below to answer all the items in this group.

Yes..Y
No...N

94. English
95. Mathematics
96. Social studies
97. Natural sciences
98. Foreign language

SAT Item	ACT Item	Created Variables
A	94	English
B	95	Mathematics
C	98	Foreign language
D	97	Science

Note 50 Values for SAT were recoded as follows

SAT

6. How would you compare your achievement in subjects taken since beginning ninth grade with that of the other students in your high school class?

(A) Highest tenth } top fifth
(B) Second tenth }
(C) Second fifth
(D) Middle fifth
(E) Fourth fifth
(F) Lowest fifth

1 = lowest fifth	1 = bottom quarter
2 = fourth fifth	2 = middle half
3 = middle fifth	2 = middle half
4 = second fifth	2 = middle half
5 = second tenth	3 = top quarter
6 = highest tenth	3 = top quarter

Values for ACT were recoded as follows:

ACT

. My class rank in high school is (was)(If you are not sure, give your best estimate.)

top quarter 1
second quarter 2
third quarter 3
fourth quarter 4

1 = top quarter	3 = top quarter
2 = second quarter	2 = middle half
3 = third quarter	2 = middle half
4 = fourth quarter	1 = bottom quarter

No note 51

No note 52

Note 53 This is a dummy variable. If the college of entry (CIRP) is the same as the first choice in the 12th grade, then the value 2=yes is used. Otherwise, the value 1=no is used.

Note 54 This is a dummy variable. If college of entry (CIRP) was among one of the possible 6 from the 12th grade file, then the value 2=yes is used. Otherwise, the value 1=no is used.

Note 55 This is a 3 category variable.

3 = student applied to and was accepted by first choice of 12th grade.
2 = student applied to and was turned down by first choice of 12th grade.
1 = student did not apply to first choice of 12th grade.

The construction of this variable is based on comparing the college choice set of CIRP to the first college listed on the 12th grade record.

Note 56 This is a dummy variable.

2 = student applied to first choice of 12th grade.
1 = student did not apply to first choice of 12th grade.

This variable is constructed by comparing the college choice set of CIRP to the first college listed on the 12th grade record.

Note 57 This is a dummy variable.

2 = student was accepted by first choice of 12th grade.
1 = student was not accepted by first choice of 12th grade.

This variable is constructed by comparing the college choice set of CIRP to the first college listed on the 12th grade record.

Note 58 This is a dummy variable.

2 = at least 1 of the 4 possible CIRP colleges to which the student applied is given as 1 of the possible 6 colleges listed on the 12th grade record.

1 = none of the CIRP colleges to which the student applied is listed as 1 of the 6 possible colleges on the 12th grade record.

Note 58A

This is a dummy variable.

2 = at least 1 of the 4 possible CIRP colleges to which the student was accepted is given as 1 of the possible 6 colleges listed on the 12th grade record.

1 = none of the CIRP colleges to which the student was accepted is listed as 1 of teh 6 possible colleges on the 12th grade record.

Note 59

See note 34

No Note 60

Note 61

In order to be included in the weighting scheme, the subject could not be currently enrolled in postsecondary education at the time of testing and had to be residing in the United States.

No Note 62

Note 63: 1970 Census data were used to create a matrix, by state, of sex x race x family income for all families with a first-time college student (freshman). Family incomes were inflated to 1974 levels using CPS data. Data from this file were also tabulated by state, sex, race, and family income (from SAT or ACT 12th grade questionnaire), and weights computed to inflate file counts to population counts. If for any of these three varaibles there was an invalid value then for that variable the CIRP data were used. If the CIRP data then contained invalid information, the following missing value assumptions were made:

race = white
sex = male*
income = modal income response of race from table (below).

Then for each race item (7 categories) the modal income response, excluding missing data, was determined. The modal response was then decremented by one category to reflect the lower income distribution of non-respondents.

Race		Income
White	=	$12 - 14,999
Black	=	$7,500 - 8,999
American Indian	=	$9 - 11,999
Oriental	=	$9 - 11,999
Mexican American	=	$7,500 - 8,999
Puerto Rican American	=	$6 - 7,499
Other	=	$9 - 11,999

* Because of clerical editing of names, virtually no CIRP students (less than 1 in 1,000) have missing sex.

Note 64: This weight corrects for bias by college, high school grades, sex, and year graduated from high school. It is useful in correcting for bias within each CIRP college in who takes college admissions tests immediately prior to matriculating. It does not produce population estimates (see note 65).

Note 65: Inflates weight described in note 64 to population of full-time, first-time entering freshman for Fall, 1975. Caution should be used in applying this weight, since it is nonzero only for students from 366 CIRP "good data" institutions. Weights for all other students are zero. See Astin, A.W., King, M.R., and Richardson, The American Freshman: National Norms for 1975. Los Angeles, Graduate School of Education, University of California, Los Angeles, 1975.

Note 66

For each student's home zip code, thirteen different measures of the local higher education environment were constructed. The principal rationale for computing these measures was the expectation that the student's decisions about what kind of college to attend and where would be affected by the proximity of various types of public and private institutions. The availability of various types of public institutions would be expected to affect decision making only within state boundaries, since students generally do not cross state boundaries to attend public institutions or, if they do, the proximity of the institution is not expected to be as important a factor as in the case of public institutions located within the states. Consequently, the measures involving public institutions were confined to the state within which the student resided. Only the District of Columbia presented problems with measures of public institutions, given that some of the "District of Columbia" zip codes are actually located in suburban Maryland. Thus, proximity measures for public institutions in Washington, D.C. include a few public institutions in nearby Maryland. Otherwise, all measures of public institutions involve only those institutions located within the student's home state. Measures of private institutions, on the other hand, included all private institutions located within the student's home state and all contiguous states. Two states with only the corners touching were considered contiguous as well as all states with common boundaries. Hawaii and Alaska, of course, have no contiguous states.

Final decisions about how to construct the various proximity measures were made by first taking two states -- Massachusetts and California -- with contrasting types of higher educational systems and by plotting various proximity measures against students decisions such as choosing a public versus private college, a two-year versus four-year college, and so forth. The final thirteen measures were chosen primarily on the basis of how well they differentiated students according to these various choice processes. Particular attention was given to students with relatively high scores on college admissions tests (SAT composite of 1150 or ACT equivalent), since such students would presumably be eligible for admission to a wider range of institutions and therefore be more influenced by proximity variables.

The thirteen are described separately below:

1. Distance to nearest public two-year college (1-999 miles; more than 999 recoded to 999).

2. Distance to nearest public four-year college (1-999 miles).

3. Distance to nearest low selectivity public university (prestige less than 5 (see page 18)). The distinction between low and high (see below) selectivity for public universities was considered important, given that students of moderate ability will probably not be eligible for admission to a high selectivity university. Thus, it would be expected that the importance of proximity would vary by the selectivity of the institution. A

similar rationale was involved in sorting out private institutions by selectivity (below).

4. Distance to nearest high selectivity public university (prestige greater than 5 or (prestige equals 5 and selectivity greater than 1020)).

5. Distance to nearest public black college (1-999 miles). This measure would be expected to have an impact on decision making among black students.

6. Number of private low selectivity colleges within 25 miles (selectivity less than 1050) 1-9 (10 or more coded as 9).

7. Number of private medium selectivity college within 25 miles (selectivity between 1050 and 1174) (1-9).

8. Number of private high selectivity colleges within 25 miles (selectivity equal to or greater than 1175) (1-9).

9. Distance to nearest private black college (1-999 miles).

10. Distance to nearest low selectivity Catholic college (selectivity less than 1050) (1-999 miles).

11. Distance to nearest high selectivity Catholic college (selectivity equal to or greater than 1050) (1-999 miles).

12. Number of low selectivity Protestant colleges within 25 miles (selectivity less than 1050) (1-9; recode 10 more to 9).

13. Number of high selectivity Protestant colleges within 25 miles (selectivity equal to or greater than 1050) (1-9).

Appendix E

SISFAP Study A

Documentation

11th-12th Grade Freshman

Longitudinal File

Introduction

This longitudinal file was developed as part of a major national study of the impact of financial aid programs conducted by the Higher Education Research Institute under contract with the U.S. Office of Education, Office of Planning, Budgeting, and Evaluation. The longitudinal data cover three points in time: early in the junior year in secondary school (October, 1973), the middle of the senior year in socondary school (academic year 1974-1975), and the beginning of the initial postsecondary year (Fall, 1975). Eleventh grade data were obtained from the Preliminary Scholastic Aptitude Test (PSAT) of the College Entrance Examination Board administered by the Educational Testing Service. This testing involves a preliminary form of the Scholastic Aptitude Test (SAT) and a brief personal data questionnaire which inquires about the student's first and second college preferences. Twelfth grade data were obtained from two sources: the Admissions Testing Program (ATP) of the College Entrance Examination Board (conducted by the Educational Testing Service), and the College Admissions Program of the American College Testing Program (ACT). Both the ATP and ACT assessments involve a college admissions test and a personal data questionnaire which includes up to six college preferences. The SAT is the college admissions test administered as part of the ATP. The 12th grade data from the College Entrance Examination Board is referenced as SAT, rather than ATP, to avoid confusion with the acronym ACT. Student data at the time of entry into postsecondary education (Fall, 1975) were obtained from the Cooperative Institutional Research Program (CIRP) conducted by the Laboratory for Research in Higher Education at the University of California, Los Angeles under support from the American Council on Education.

The data file is arranged in five parts: (1) PSAT 11th grade data are in columns 1189-1366; (2) 12th grade data from the SAT or ACT are in columns 666-1173; (3) CIRP entering freshmen data are in columns 1-665 with population weights in columns 1180-1188; (4) data describing the higher education environment of the student's home zip code are contained in columns 1367-1395; (5) data primarily describing financial aid expenditures in the student's home state are in columns 1396-1463. The length of this file has been increased substantially by including in each student's record 62 columns of descriptive data for each of twelve college choices (two from the 11th grade, six from the 12th grade and four from CIRP).

Twelfth grade data from the SAT and ACT, including admissions test scores as well as background items from the questionnaires administered with tests, have been converted to a common scale. Details of these conversion procedures are contained in a series of notes at the end of the documentation (pp. 48-91). Unless specified otherwise, missing data are indicated by blanks.

The file contains a number of blank fields which should be ignored. They have been retained in order to maintain comparability of data fields across different versions of this file as it was developed.

Overall design of the file was under the direction of Alexander W. Astin. James W. Henson was responsible for coordinating the major technical aspects of file development. C.E. Christian carried responsibility for converting ACT and ATP data to a common form. Gerald T. Richardson and Paul E. Hemond did most of the systems design and programming.

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TAPE-FILE INFORMATION SHEET

DESCRIPTIVE FILE NAME National Longitudinal Data: Eleventh-Twelfth-Freshmen Data

CREATED BY J.Henson, P. Hemond, G. Richardson

DATE CREATED 2-22-1978

FILE#/LABEL (1,sl,,)

DSNAME HERI 1112FRESHMEN

RECORD LENGTH 1464

BLOCK LENGTH 14640

NUMBER OF TAPES 2

TAPE NUMBER(S) AA0828,AA0829

TRACKS/DENSITY 9/6250BPI

SORTED BY not sorted

UNIT OF ANALYSIS individual

NUMBER OF CASES 115,325

FILE LOCATION

COMMENTS Some of the columns designated as blank do contain data. These data are left from earlier versions of the file and are random numbers in those fileds, so they should be ignored.

HIGHER EDUCATION RESEARCH INSTITUTE
924 WESTWOOD BLVD., SUITE 850
LOS ANGELES, CALIFORNIA 90024

Higher Education Research Institute
924 Westwood Blvd., Suite 850
Los Angeles, California 90024

TAPE LAYOUT SHEET
HERI-SISFAP 11th-12th grade
freshman file
Page 1 of 24
CIRP Data

CHARACTER
POSITION

1 Begin 1975 CIRP Freshman Survey Data
2
3
4
5
6
7
8
9
10
11
12 BLANK
13
14
15
16
17
18
19
20
21
22
23

Note: See attached CIRP
questionnaire (pp 47a-47d)
for exact working of items
and missing data codes

24 Sex (1=male, 2=female)
25 Veteran Status (1=no, 2=yes)
26 Age (1=16 or less, 2=17, 3=18, 4=19, 5=20, 6=21, 7=22, 8=23-25
27 9=26-29, 10=30 or older)
28 Yr. graduated from high school See page 25 (6 categories)
29 High school program (1=college prep, 2=other)
30 High school grades (8=A, A+, 7=A-, 6=B+, 5=B, 4=B-, 3=C+, 2=C, 1=D)
31 Mathematical skells
32 Reading and composition
33 Foreign languages
34 Science
35 History, social sciences
36 Vocational skills
37 Music and artistic skills
38 Study habits

How well did your high school prepare
you in each of these areas?
(3=very well, 2=fairly well, 1=poorly)

39 Status (2=full-time, 1=part-time)
40 Previous credit courses at this institution (2=yes, 1=no)
41 No
42 Yes, at junior college or community college
43 Yes, at four-year college or university
44 Yes, at other postsecondary school

Prior attendance for credit
See page 25
(2=checked, 1=not checked)

45 No
46 Yes, at junior college or community college
47 Yes, at four-year college or university
48 Yes, at other postsecondary school

Prior attendance not for
credit See page 25
(2=checked, 1=not checked)

49 Miles, college to home (1=5 or less; 2=6-10, 3=11-50, 4=51-100, 5=101-500, 6=500 up
50 Financial need

CHARACTER POSITION		
51	Academic talent	Reasons for receiving financial aid
52	Athletic talent	(3=major reason, 2=minor reason,
53	Other special talents	1=not a reason)
54	Choice of college (3=first choice, 2=second choice, 1=less than second)	
55	Number of other colleges applied to (1=none, 2=1, 3=2, 5=4, 6=5, 7=6 or more)	
56	Number of acceptances (1=none, 2=1, 3=2, 4=3, 5=4, 6=5, 7=6 or more)	
57	Most preferred college	Accepted for admission to these colleges
58	Second most preferred college	(2=yes, 1=no)
59	Third most preferred college	
60	Parental, or family aid, or gifts	
61	Basic educational opportunity grant	
62	Supplemental educational opportunity grant	1=none
63	College work-study grant	2=$1-499
64	State scholarship or grant	3=$500-999
65	Local or provate scholarship or grant	4=$1000-1999
66	Fed. guaranteed student loan	5=$2000-4000
67	National direct student loan	6=Over $4000
68	Other loan	
69	Full-time work	
70	Part-time work or summer work (other than above)	
71	Savings	
72	Spouse	
73	Your G.I. benefits	
74	Your parents' G.I. benefits	
75	Social security dependent's benefits	
76	Other	
77	Total income independent of your parents	(8 categories) See page 25
78	Financially independent of parents this year	
79	Financially independent of parents last year	(2=yes, 1=no)
80	Marital Status (1=not married, 2=married, live w/ spouse, 3=married, not live w/ spouse	
81	Took S.A.T.	Tests taken
82	Took A.C.T.	(2=yes, 1=no, 3=don't remember)
83	Took P.S.A.T.	
84	Relatives wanted me to come	Reasons for attending this college:
85	Wanted to live away from home	3=very important
86	Teacher advised me	2=somewhat important
87	College has good academic reputation	1=not important
88	Offered financial assistance	
89	Someone who had been here before advised me	
90	Special education programs offered	
91	This college has low tuition	
92	My guidance counselor advised me	
93	I wanted to live at home	
94	I could not get a job	
95	A friend suggested attending	
96	A college representative recruited me	
97	It will help me get a better job	
98	Highest degree planned, any time	
99	Highest degree planned, this college	(9 categories) See page 25
100	Where plan to live	(6 categories) See page 25

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TAPE LAYOUT SHEET
HERI-SISFAP 11th-12th grade
freshman file
Page 3 of 24
CIRP Data

CHARACTER POSITION			
101	Where prefer to live	(6 categories) See page 25	
102	White/Caucasian		
103	Black/Negro/Afro-American		
104	American Indian	Race	
105	Oriental	(2=yes, 1=no)	
106	Mexican-American/Chicano		
107	Puerto-Rican-American		
108	Other		
109	Concern about financing education (1=none, 2=some, 3=major concern)		
110	Political Views (5=far left, 4=liberal, 3=middle, 2=conservative, 1=far right)		
111 112	Best estimate of parents' income last year	(14 categories)	See page 25
113	Father's education	(8 categories) See page 25	
114	Mother's education		
115 116	Your probable future occpuation		
117	Your father's current occupation		(62 categories)
118			See pp 25-26
119 120	Your mother's current occupation		
121 122	Your current religious preference		
123	Your father's current religious preference		(17 categories)
124			See pp 25-26
125 126	Your mother's current religious preference		
127	Fed. gov't. not doing enough to control pollution		
128	Fed. gov't. not doing enough to protect consumer		
129	More state and federal money for private colleges and universities		
130	Fed. gov't. should help students w/grants, not loans		
131	Too much concern for criminal's rights		
132	People should not obey laws that violate personal values		
133	As long as they work hard, people should be paid equally		
134	Activities of married women are best confined to the home		
135	Couple should live together before marriage		
136	Parents should be discouraged from having large families		
137	Sex is OK is two people like each other		4=agree strongly
138	Women should receive same opportunities and salery		3=agree somewhat
139	Wealthy people should pay more taxes		2=disagree somewhat
140	Marijuana should be legalized		1=disagree strongly
141	Large political contributions should be outlawed		
142	An individual can do little to change society		
143	Young people these days are more idealistic		
144	Young people understand more about sex		
145	College officials can regulate student behavior off campus		
146	Faculty promotions should depend partly on student evaluations		
147	College grades should be abolished		
148	Colleges would be improved is organized sports were de-emphasized		
149	Student publications should be cleared by college officials		
150	College officials can ban persons w/extreme views from speaking		

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TAPE LAYOUT SHEET
HERI-SISFAP 11th-12th grade
freshman file
Page 4 of 24
CIRP Data

CHARACTER POSITION		
151	Give students from disadvantaged backgrounds preferred treatment	
152	Adopt open admissions	Same as
153	Keep standards up, even with open admissions	(127-150)
154	Fed. gov't. should do more to discourage energy consumption	
155	Students can demonstrate to keep speakers off campus	
156 157	Undergraduate major (77 categories) See pp 27-29	
158	Becoming accomplished in performing arts	
159	Becoming authority in my field	
160	Obtaining recognition from colleagues for contributions	
161	Influencing the political structure	
162	Influencing social values	
163	Raising a family	
164	Having administrative responsibility for work of others	
165	Being well-off financially	4=very essential
166	Helping others who are in difficulty	3=very important
167	Making a theoretical contribution to science	2=somewhat important
168	Writing original works	1=not important
169	Creating artistic work	
170	Being successful in a business of my own	
171	Becoming involved in programs to clean up the environment	
172	Developing a meaningful philosophy of life	
173	Participating in a community action program	
174	Keeping up to date with political affairs	
175	Change major field	
176	Change career choice	
177	Fail one or more courses	
178	Graduate with honors	
179	Be elected to a student office	Best guess as to chances:
180	Join in a social fraternity, sorority, or club	4=very good chance
181	Live in a coeducational dorm	3=some chance
182	Live in a commune while in college	2=very little chance
183	Be elected to an academic honor society	1=no chance
184	Make at least a "B" average	
185	Need extra time to complete your degree requirements	
186	Need tutoring in some courses	
187	Have to work at an outside job during college	
188	Seek vocational counseling	
189	Seek individual counseling on personal problems	
190	Get a bachelor's degree	
191	Drop out of this college temporarily	
192	Drop out permanently	
193	Transfer to another college before graduating	
194	Be satisfied with your college	
195	Find a job after graduation in your field	
196	Get married while in college	
197	Get married within a year after college	
198	Permission to send college data with I.D. (2=yes, 1=no)	
199 200	BLANK	

CHARACTER POSITION		
201		BLANK
202		
203		
204		
205		
206		
207		
208		
209		
210		
211		
212		
213		
214		
215	Artist/performer	*** BEGIN GENERATED CIRP VARIABLES*** Student's probable career collapsed (2=yes, 1=no)
216	Businessman	
217	Clergyman	
218	College teacher	
219	Doctor (M.D., D.D.S.)	
220	Educator (secondary)	
221	Elementary teacher	
222	Engineer	
223	Farmer or Forester	
224	Health professional	
225	Lawyer	
226	Nurse	
227	Research Scientist	
228	Other choice	
229	Undecided	
230	Aritst/performer	Father's current occupation collapsed (2=yes, 1=no)
231	Businessman	
232	Clergyman	
233	College teacher	
234	Doctor (M.D., D.D.S.)	
235	Educator (secondary)	
236	Elementary teacher	
237	Engineer	
238	Farmer of Forester	
239	Health professional	
240	Lawyer	
241	Military career	
242	Research scientist	
243	Skilled worker	
244	Semiskilled-unskilled worker	
245	Unemployed	
246	Other	
247	Artist/performer	
248	Businessman	
249	clergyman	
250	College teacher	

CHARACTER POSITION		
251	Doctor (M.D., D.D.S.)	Mother's occupation collapsed (2=yes, 1=no)
252	Educator (secondary)	
253	Elememtary teacher	
254	Engineer	
255	Farmer or Forester	
256	Health professional	
257	Lawyer	
258	Military career	
259	Research scientist	
260	Skilled worker	
261	Semiskilled worker	
262	Unemployed	
263	Other	
264	Agriculture	Major field collapsed (2=yes, 1=no)
265	Biological science	
266	Business	
267	Education	
268	Engineering	
269	English	
270	Health professions	
271	History and political science	
272	Humanities	
273	Fine Arts	
274	Mathematics and statistics	
275	Physical sciences	
276	Social sciences	
277	Other fields (technical)	
278	Other fields (nontechnical)	
279	Undecided	
280	Response to previous attendance (at any other institution) Q.10 (2=yes, 1=no)	
281	Response to race -- Q.26 (2=yes, 1=no)	
282	Norms status (1=first time, full-time, 2-first time, part time, 3=nonprofessional)	
283	Financial aid received this year, actual grants, Q.12	
284		
285		
286		
287	Financial aid received this year, loans, Q.12	
288		
289		
290		
291	Financial aid received this year, work-study, Q.12	
292		
293		
294		
295	Other college student applied to (ACE colleg ID) Q.17	
296		
297		
298		
299	Accepted to college one for admission (2=yes, 1=no)	
300	Financial aid offered first year, grants, Q.17	(continued)

CHARACTER POSITION	
301	Financial aid offered first year, grant, Q. 17
302	
303	
304	Financial aid offered first year, loan, Q. 17
305	
306	
307	
308	Financial aid offered first year, work-study, Q. 17
309	
310	
311	
312	Other college sutdent applied to for admission (ACE college ID), Q. 17
313	
314	
315	
316	Accepted to college #2 for admission (2=yes, 1=no)
317	Financial aid offered first year, grants, Q. 17
318	
319	
320	
321	Financial aid offered first year, loans, Q. 17
322	
323	
324	
325	Financial aid offered first year, work-study, Q. 17
326	
327	
328	
329	Other college student applied to for admission (ACE college ID) Q. 17
330	
331	
332	
333	Accepted to college #3 for admission (2=yes, 1=no)
334	Financial aid offered first year, grants, Q. 17
335	
336	
337	
338	Financial aid offered first year, loans, Q. 17
339	
340	
341	
342	Financial aid offered first year, work-study, Q. 17
343	
344	
345	
346	Entered proprietary school in 1975 2=yes 1=no No missing data
347	
348	BLANK
349	
350	

CHARACTER POSITION				
351				BLANK
352	Stratification cell			See page 29
353				
354				
355				BLANK
356				
357				
358				
359	Male Wgt			See page 29
360				
361				
362				
363	Female Wgt			See page 29
364				
365				
366				
367	Edit Q 17-1	2=yes	1=no	See page 46
368	Edit Q 17-2	2=yes	1=no	See page 46
369	Edit Q 17-3	2=yes	1=no	See page 46
370	Edit Q 17	2=yes	1=no	See page 46
371	Edit Q 18	2=yes	1=no	See page 46
372	Total Financial Aid, Question 12			
373				
374				
375				
376	Total Financial Aid, Question 17-1			
377				
378				
379				
380	Total Financial Aid, Question 17-2			
381				
382				
383				
384	Total Financial Aid, Question 17-3			
385				
386				
387				
388	Total Aid, Grants, Question 18			
389				
390				
391				
392	Total Aid, Loans, Question 18			
393				
394				
395				
396	Total Aid, Workstudy, Question 18			
397				
398				
399				
400	Total Aid, Question 18			

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HERI-SISFAP 11th-12th grade
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CIRP Data

CHARACTER
POSITION

401 Total Aid, Question 18 (continued)
402
403

404 Total Imputations
405
406

407 Number of College IDs in CIRP record (see note 1)

408 BEGIN DATA FOR COLLEGES ON CIRP
409
410 Institutional data for college attended Fall '75
411 BLANK (no missing data for institutional variables)
412 (see note 2)
413
414
415
416
417

418 **State** 58 categories see page 30
419

420 Region 9 categories see page 31

421
422
423 BLANK
424
425

426 Race of Institution 1=white; 2=black

427 Control 1=public; 2-private

428 Type 1=univ; 1=other 4-yr; 3=other 2-yr; 4=4-yr. branch of
429 17 Category Institution Code multiuniversity; 5=2-yr branch of multiuniversity;
430 (see note 3 and page 32) 6=2-yr branch of multi-four-year institution

431 Prestige 1-9 (see note 4 and page 32)

432 Selectivity divided by ten (Mean institutional SAT V+M or equivalent
433 rounded to three digits: E.G., 1459=150) (see note 5)
434

435 Selectivity code 1-9 (see note 6)
436 Enrollment code 1-9 (see note 7) see codes,
437 Percent women enrolled code 1-9 (see note 8) page 33
438 Percent graduate students enrolled code 1-9 (see note 9)
439 Education and General expenditures per student code (see note 10) see codes,
440 Library expenditures per student code 1-9 (see note 11) page 34
441 Value of assets per student code 1-9 (see note 12)
442 Student/faculty ratio code 1-9 (see note 13)

443 Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136)
444 (see note 14)
445

446 Tuition and fees code 1-9 (see note 15 and page 35)

447 Percent BAs in biological sciences (agriculture and bio sci) (see note 16)
448

449 Percent BAs in vocational areas (architecture, communications, health professions,
450 home economics, library sciences (math and physical science) (see note 16)

CHARACTER
POSITION

451 452	Percent BAs in social sciences (area studies, psychology, social science, law)		(see note 16)
453 454	Percent BAs in physical sciences (math and physical science)		(see note 16)
455 456	Percent BAs in humanities (fine arts, foreign languages, letters, theology)		(see note 16)
457 458	Percent BAs in engineering (computer science, engineering)		(see note 16)
459 460	Percent BAs in business (business only)		(see note 16)
461 462	Percent BAs in education (education only)		(see note 16)
463	Highest degree offered 1-7		(see page 35)
464 465	Affiliation		(see note 17 and page 36)
466 467 468 469	Distance in miles from home to this institution 1=zero or one mile 0=missing data (if zip code not valid)		(see note 18)
470 471 472 473 474 475	BLANK		(see note 2) Institutional data for other college applied to #1 (most preferred alternate)
476 477 478 479	BLANK		
480 481	State	58 categories	see page 30
482	Region	9 categories	see page 31
483 484 485 486 487	BLANK		
488	Race of Institution	1=white; 2=black	
489	Control	1=public; 2-private	
490	Type	1=univ; 1=other 4-yr; 3=other 2-yr; 4=4-yr. branch of multiuniversity; 5=2-yr branch of multiuniversity; 6=2-yr branch of multi-four-year institution	
491 492	17 Category Institution Code (see note 3 and page 32)		
493	Prestige	1-9 (see note 4 and page 32)	
494 495 496	Selectivity divided by ten rounded to three digits:	(Mean institutional SAT V+M or equivalent E.G., 1459=150)	(see note 5)
497	Selectivity code	1-9	(see note 6)
498	Enrollment code	1-9	(see note 7) see codes,
499	Percent women enrolled code	1-9	(see note 8) page 33
500	Percent graduate students enrolled code	1-9	(see note 9)

CHARACTER
POSITION

501	Education and General expenditures per student code (see note 10) see codes,	
502	Library expenditures per student code 1-9 (see note 11) page 34	
503	Value of assets per student code 1-9 (see note 12)	
504	Student/faculty ratio code 1-9 (see note 13)	
505	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136)	
506	(see note 14)	
507		
508	Tuition and fees code 1-9 (see note 15 and page 35)	
509	Percent BAs in biological sciences (agriculture and bio sci) (see note 16)	
510		
511	Percent BAs in vocational areas (architecture, communications, health professions,	
512	home economics, library sciences (math and physical science) (see note 16)	
513	Percent BAs in social sciences (area studies, psychology, social science, law)	
514	(see note 16)	
515	Percent BAs in physical sciences (math and physical science) (see note 16)	
516		
517	Percent BAs in humanities (fine arts, foreign languages, letters, theology)	
518	(see note 16)	
519	Percent BAs in engineering (computer science, engineering) (see note 16)	
520		
521	Percent BAs in business (business only) (see note 16)	
522		
523	Percent BAs in education (education only) (see note 16)	
524		
525	Highest degree offered 1-7 (see page 35)	
526	Affiliation (see note 17 and page 36)	
527		
528	Distance in miles from home to this institution	
529	1=zero or one mile	
530	0=missing data (if zip code not valid) (see note 18)	
531		
532		
533		Institutional data for other college
534	BLANK	applied to #2 (second most preferred
535		alternate)
536		(see note 2)
537		
538		
539		
540	BLANK	
541		
542	State 58 categories see page 30	
543		
544	Region 9 categories see page 31	
545		
546		
547	BLANK	
548		
549		
550	Race of Institution 1=white; 2=black	

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CIRP Data

CHARACTER
POSITION

551 Control 1=public; 2-private
552 Type 1=univ; 1=other 4-yr; 3=other 2-yr; 4=4-yr. branch of
553 17 Category Institution Code multiuniversity; 5=2-yr branch of multiuniversity;
554 (see note 3 and page 32) 6=2-yr branch of multi-four-year institution
555 Prestige 1-9 (see note 4 and page 32)
556 Selectivity divided by ten (Mean institutional SAT V+M or equivalent
557 rounded to three digits: E.G., 1459=150) (see note 5)
558
559 Selectivity code 1-9 (see note 6)
560 Enrollment code 1-9 (see note 7) see codes,
561 Percent women enrolled code 1-9 (see note 8) page 33
562 Percent graduate students enrolled code 1-9 (see note 9)
563 Education and General expenditures per student code (see note 10) see codes,
564 Library expenditures per student code 1-9 (see note 11) page 34
565 Value of assets per student code 1-9 (see note 12)
566 Student/faculty ratio code 1-9 (see note 13)
567 Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136)
568 (see note 14)
569
570 Tuition and fees code 1-9 (see note 15 and page 35)
571 Percent BAs in biological sciences (agriculture and bio sci) (see note 16)
572
573 Percent BAs in vocational areas (architecture, communications, health professions,
574 home economics, library sciences (math and physical science) (see note 16)
575 Percent BAs in social sciences (area studies, psychology, social science, law)
576 (see note 16)
577 Percent BAs in physical sciences (math and physical science) (see note 16)
578
579 Percent BAs in humanities (fine arts, foreign languages, letters, theology)
580 (see note 16)
581 Percent BAs in engineering (computer science, engineering) (see note 16)
582
583 Percent BAs in business (business only) (see note 16)
584
585 Percent BAs in education (education only) (see note 16)
586
587 Highest degree offered 1-7 (see page 35)
588 Affiliation (see note 17 and page 36)
589
590 Distance in miles from home to this institution
591 1=zero or one mile
592 0=missing data (if zip code not valid) (see note 18)
593
594
595 Institutional data, third most preferred
596 BLANK alternate)
597 (see note 2)
598
599

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freshman file

CIRP Data

CHARACTER POSITION				
600 601 602 603	BLANK			
604 605	State	58 categories	see page 30	
606	Region	9 categories	see page 31	
607 608 609 610 611	BLANK			
612	Race of Institution	1=white; 2=black		
613	Control	1=public; 2-private		
614	Type	1=univ; 1=other 4-yr; 3=other 2-yr; 4=4-yr. branch of multiuniversity; 5=2-yr branch of multiuniversity; 6=2-yr branch of multi-four-year institution		
615 616	17 Category Institution Code (see note 3 and page 32)			
617	Prestige	1-9 (see note 4 and page 32)		
618 619 620	Selectivity divided by ten rounded to three digits:	(Mean institutional SAT V+M or equivalent E.G., 1459=150) (see note 5)		
621	Selectivity code	1-9	(see note 6)	
622	Enrollment code	1-9	(see note 7)	see codes, page 33
623	Percent women enrolled code	1-9	(see note 8)	
624	Percent graduate students enrolled code	1-9	(see note 9)	
625	Education and General expenditures per student code		(see note 10)	see codes, page 34
626	Library expenditures per student code	1-9	(see note 11)	
627	Value of assets per student code	1-9	(see note 12)	
628	Student/faculty ratio code	1-9	(see note 13)	
629 630 631	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136) (see note 14)			
632	Tuition and fees code	1-9	(see note 15 and page 35)	
633 634	Percent BAs in biological sciences	(agriculture and bio sci)	(see note 16)	
635 636	Percent BAs in vocational areas	(architecture, communications, health professions, home economics, library sciences (math and physical science)	(see note 16)	
637 638	Percent BAs in social sciences	(area studies, psychology, social science, law)	(see note 16)	
639 640	Percent BAs in physical sciences	(math and physical science)	(see note 16)	
641 642	Percent BAs in humanities	(fine arts, foreign languages, letters, theology)	(see note 16)	
643 644	Percent BAs in engineering	(computer science, engineering)	(see note 16)	
645 646	Percent BAs in business	(business only)	(see note 16)	
647 648	Percent BAs in education	(education only)	(see note 16)	
649	Highest degree offered 1-7	(see page 35)		

CHARACTER
POSITION

650 651	Affiliation (see note 17 and page 36)	
652 653 654 655	Distance in miles from home to this institution 1=zero 0=missing data (if zip code not valid) (see note 18)	
656 657	Mean selectivity of institutions in CIRP record divided by 100 4-16 (see note 19)	
658 659	Mean coded enrollment of institutions in CIRP record (F2.1) (see note 20)	
660 661	Mean tuition and fees of institutions in CIRP record divided by 100 (see note 21)	
662 663 664 665	Mean distance from home to college of institution in CIRP record (see note 22)	END CIRP DATA
666	Sex 1=male, 2=female	BEGIN ATP AND ACT DATA-12th GRADE
667 668 669 670 671 672 673 674	BLANK	
675	Educational level at time 12th grade test taken 1=jr., 2=sr., 3=col. st., 4=other (see note 24)	
676 677	Home state code (see page 38)	
678 679 680 681 682	BLANK	
683	Number of college choices in 12th grade record; coded 0-6 (see note 26) zero is a valid number-no missing data	
684 685 686 687 688 689	BLANK	BEGIN COLLEGE CHOICE DATA College Choice #1, institutional data (note 26A)
690 691 692 693	BLANK	
694 695	State 58 categories see page 30	
696	Region 9 categories see page 31	
697 698 699 700	BLANK	

CHARACTER
POSITION

701				
702	Race of Institution	1=white; 2=black		
703	Control	1=public; 2-private		
704	Type	1=univ; 1=other 4-yr; 3=other 2-yr; 4=4-yr. branch of		
705	17 Category Institution Code	multiuniversity; 5=2-yr branch of multiuniversity;		
706	(see note 3 and page 32)	6=2-yr branch of multi-four-year institution		
707	Prestige	1-9 (see note 4 and page 32)		
708	Selectivity divided by ten	(Mean institutional SAT V+M or equivalent		
709	rounded to three digits:	E.G., 1459=150) (see note 5)		
710				
711	Selectivity code	1-9	(see note 6)	
712	Enrollment code	1-9	(see note 7)	see codes,
713	Percent women enrolled code	1-9	(see note 8)	page 33
714	Percent graduate students enrolled code	1-9	(see note 9)	
715	Education and General expenditures per student code		(see note 10)	see codes,
716	Library expenditures per student code	1-9	(see note 11)	page 34
717	Value of assets per student code	1-9	(see note 12)	
718	Student/faculty ratio code	1-9	(see note 13)	
719	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136)			
720	(see note 14)			
721				
722	Tuition and fees code	1-9	(see note 15 and page 35)	
723	Percent BAs in biological sciences (agriculture and bio sci)		(see note 16)	
724				
725	Percent BAs in vocational areas (architecture, communications, health professions,			
726	home economics, library sciences (math and physical science)		(see note 16)	
727	Percent BAs in social sciences (area studies, psychology, social science, law)			
728			(see note 16)	
729	Percent BAs in physical sciences (math and physical science)		(see note 16)	
730				
731	Percent BAs in humanities (fine arts, foreign languages, letters, theology)			
732			(see note 16)	
733	Percent BAs in engineering (computer science, engineering)		(see note 16)	
734				
735	Percent BAs in business (business only)		(see note 16)	
736				
737	Percent BAs in education (education only)		(see note 16)	
738				
739	Highest degree offered 1-7		(see page 35)	
740	Affiliation		(see note 17 and page 36)	
741				
742	Distance in miles from home to this institution			
743	1=zero or one mile			
744	0=missing data (if zip code not valid)		(see note 18)	
745				
746				
747				
748	BLANK		college choice #2, institutional data (note 26A)	
749				
750				
751				

CHARACTER POSITION			
752			
753			
754	BLANK		
755			
756	State	58 categories	see page 30
757			
758	Region	9 categories	see page 31
759			
760			
761	BLANK		
762			
763			
764	Race of Institution	1=white; 2=black	
765	Control	1=public; 2-private	
766	Type	1=univ; 1=other 4-yr; 3=other 2-yr; 4=4-yr. branch of	
767	17 Category Institution Code	multiuniversity; 5=2-yr branch of multiuniversity;	
768	(see note 3 and page 32)	6=2-yr branch of multi-four-year institution	
769	Prestige	1-9 (see note 4 and page 32)	
770	Selectivity divided by ten	(Mean institutional SAT V+M or equivalent	
771	rounded to three digits:	E.G., 1459=150) (see note 5)	
772			
773	Selectivity code	1-9	(see note 6)
774	Enrollment code	1-9	(see note 7) see codes,
775	Percent women enrolled code	1-9	(see note 8) page 33
776	Percent graduate students enrolled code	1-9	(see note 9)
777	Education and General expenditures per student code		(see note 10) see codes,
778	Library expenditures per student code	1-9	(see note 11) page 34
779	Value of assets per student code	1-9	(see note 12)
780	Student/faculty ratio code	1-9	(see note 13)
781	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136)		
782	(see note 14)		
783			
784	Tuition and fees code	1-9	(see note 15 and page 35)
785	Percent BAs in biological sciences	(agriculture and bio sci)	(see note 16)
786			
787	Percent BAs in vocational areas	(architecture, communications, health professions,	
788	home economics, library sciences	(math and physical science)	(see note 16)
789	Percent BAs in social sciences	(area studies, psychology, social science, law)	
790			(see note 16)
791	Percent BAs in physical sciences	(math and physical science)	(see note 16)
792			
793	Percent BAs in humanities	(fine arts, foreign languages, letters, theology)	
794			(see note 16)
795	Percent BAs in engineering	(computer science, engineering)	(see note 16)
796			
797	Percent BAs in business	(business only)	(see note 16)
798			
799	Percent BAs in education	(education only)	(see note 16)
800			

CHARACTER POSITION				
801	Highest degree offered 1-7	(see page 35)		
802	Affiliation	(see note 17 and page 36)		
803				
804	Distance in miles from home to this institution			
805	1=zero or one mile			
806	0=missing data (if zip code not valid)	(see note 18)		
807				
808				
809			college choice # 3, institutional	
810	BLANK		data (note 26A)	
811				
812				
813				
814				
815				
816	BLANK			
817				
818	State	58 categories	see page 30	
819				
820	Region	9 categories	see page 31	
821				
822				
823	BLANK			
824				
825				
826	Race of Institution		1=white; 2=black	
827	Control		1=public; 2-private	
828	Type	1=univ; 1=other 4-yr; 3=other 2-yr; 4=4-yr. branch of		
829	17 Category Institution Code	multiuniversity; 5=2-yr branch of multiuniversity;		
830	(see note 3 and page 32)	6=2-yr branch of multi-four-year institution		
831	Prestige	1-9 (see note 4 and page 32)		
832	Selectivity divided by ten	(Mean institutional SAT V+M or equivalent		
833	rounded to three digits:	E.G., 1459=150) (see note 5)		
834				
835	Selectivity code	1-9	(see note 6)	
836	Enrollment code	1-9	(see note 7)	see codes,
837	Percent women enrolled code	1-9	(see note 8)	page 33
838	Percent graduate students enrolled code	1-9	(see note 9)	
839	Education and General expenditures per student code		(see note 10)	see codes,
840	Library expenditures per student code	1-9	(see note 11)	page 34
841	Value of assets per student code	1-9	(see note 12)	
842	Student/faculty ratio code	1-9	(see note 13)	
843	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136)			
844	(see note 14)			
845				
846	Tuition and fees code	1-9	(see note 15 and page 35)	
847	Percent BAs in biological sciences	(agriculture and bio sci)	(see note 16)	
848				
849	Percent BAs in vocational areas (architecture, communications, health professions,			
850	home economics, library sciences (math and physical science)		(see note 16)	

CHARACTER POSITION			
851 852	Percent BAs in social sciences (area studies, psychology, social science, law)		(see note 16)
853 854	Percent BAs in physical sciences (math and physical science)		(see note 16)
855 856	Percent BAs in humanities (fine arts, foreign languages, letters, theology)		(see note 16)
857 858	Percent BAs in engineering (computer science, engineering)		(see note 16)
859 860	Percent BAs in business (business only)		(see note 16)
861 862	Percent BAs in education (education only)		(see note 16)
863	Highest degree offered 1-7		(see page 35)
864 865	Affiliation		(see note 17 and page 36)
866 867 868 869	Distance in miles from home to this institution	1=zero or one mile 0=missing data (if zip code not valid)	(see note 18)
870 871 872 873 874 875	BLANK	college choice #4, institutional data	(note 26A)
876 877 878 879	BLANK		
880 881	State	58 categories	see page 30
882	Region	9 categories	see page 31
883 884 885 886 887	BLANK		
888	Race of Institution	1=white; 2=black	
889	Control	1=public; 2-private	
890	Type	1=univ; 1=other 4-yr; 3=other 2-yr; 4=4-yr. branch of multiuniversity; 5=2-yr branch of multiuniversity; 6=2-yr branch of multi-four-year institution	
891 892	17 Category Institution Code (see note 3 and page 32)		
893	Prestige	1-9	(see note 4 and page 32)
894 895 896	Selectivity divided by ten rounded to three digits:	(Mean institutional SAT V+M or equivalent E.G., 1459=150)	(see note 5)
897	Selectivity code	1-9	(see note 6) see codes, page 33
898	Enrollment code	1-9	(see note 7)
899	Percent women enrolled code	1-9	(see note 8)
900	Percent graduate students enrolled code	1-9	(see note 9)

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ATP-ACT Data

CHARACTER POSITION				
901	Education and General expenditures per student code		(see note 10)	see codes,
902	Library expenditures per student code	1-9	(see note 11)	page 34
903	Value of assets per student code	1-9	(see note 12)	
904	Student/faculty ratio code	1-9	(see note 13)	
905 906 907	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136) (see note 14)			
908	Tuition and fees code	1-9	(see note 15 and page 35)	
909 910	Percent BAs in biological sciences (agriculture and bio sci)		(see note 16)	
911 912	Percent BAs in vocational areas (architecture, communications, health professions, home economics, library sciences (math and physical science)		(see note 16)	
913 914	Percent BAs in social sciences (area studies, psychology, social science, law)		(see note 16)	
915 916	Percent BAs in physical sciences (math and physical science)		(see note 16)	
917 918	Percent BAs in humanities (fine arts, foreign languages, letters, theology)		(see note 16)	
919 920	Percent BAs in engineering (computer science, engineering)		(see note 16)	
921 922	Percent BAs in business (business only)		(see note 16)	
923 924	Percent BAs in education (education only)		(see note 16)	
925	Highest degree offered 1-7		(see page 35)	
926 927	Affiliation		(see note 17 and page 36)	
928 929 930 931	Distance in miles from home to this institution 1=zero or one mile 0=missing data (if zip code not valid)		(see note 18)	
932 933 934 935 936 937	BLANK		college choice #5, institutional data (note 26A)	
938 939 940 941	BLANK			
942 943	State	58 categories	see page 30	
944	Region	9 categories	see page 31	
945 946 947 948 949	BLANK			
950	Race of Institution		1=white; 2=black	

CHARACTER POSITION		
951	Control	1=public; 2-private
952	Type	1=univ; 1=other 4-yr; 3=other 2-yr; 4=4-yr. branch of multiuniversity; 5=2-yr branch of multiuniversity; 6=2-yr branch of multi-four-year institution
953	17 Category Institution Code (see note 3 and page 32)	
954		
955	Prestige	1-9 (see note 4 and page 32)
956	Selectivity divided by ten rounded to three digits:	(Mean institutional SAT V+M or equivalent E.G., 1459=150) (see note 5)
957		
958		
959	Selectivity code	1-9 (see note 6)
960	Enrollment code	1-9 (see note 7) see codes, page 33
961	Percent women enrolled code	1-9 (see note 8)
962	Percent graduate students enrolled code	1-9 (see note 9)
963	Education and General expenditures per student code	(see note 10) see codes, page 34
964	Library expenditures per student code	1-9 (see note 11)
965	Value of assets per student code	1-9 (see note 12)
966	Student/faculty ratio code	1-9 (see note 13)
967	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136) (see note 14)	
968		
969		
970	Tuition and fees code	1-9 (see note 15 and page 35)
971	Percent BAs in biological sciences (agriculture and bio sci)	(see note 16)
972		
973	Percent BAs in vocational areas (architecture, communications, health professions, home economics, library sciences (math and physical science)	(see note 16)
974		
975	Percent BAs in social sciences (area studies, psychology, social science, law)	(see note 16)
976		
977	Percent BAs in physical sciences (math and physical science)	(see note 16)
978		
979	Percent BAs in humanities (fine arts, foreign languages, letters, theology)	(see note 16)
980		
981	Percent BAs in engineering (computer science, engineering)	(see note 16)
982		
983	Percent BAs in business (business only)	(see note 16)
984		
985	Percent BAs in education (education only)	(see note 16)
986		
987	Highest degree offered 1-7	(see page 35)
988	Affiliation	(see note 17 and page 36)
989		
990	Distance in miles from home to this institution 1=zero or one mile 0=missing data (if zip code not valid)	(see note 18)
991		
992		
993		
994	BLANK	college choice # 6, institutional data (note 26A)
995		
996		
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ATP-ACT Data

CHARACTER
POSITION

1000				
1001				
1002	BLANK			
1003				
1004	State	58 categories	see page 30	
1005				
1006	Region	9 categories	see page 31	
1007				
1008				
1009	BLANK			
1010				
1011				
1012	Race of Institution	1=white; 2=black		
1013	Control	1=public; 2-private		
1014	Type	1=univ; 1=other 4-yr; 3=other 2-yr; 4=4-yr. branch of		
1015	17 Category Institution Code	multiuniversity; 5=2-yr branch of multiuniversity;		
1016	(see note 3 and page 32)	6=2-yr branch of multi-four-year institution		
1017	Prestige	1-9 (see note 4 and page 32)		
1018	Selectivity divided by ten	(Mean institutional SAT V+M or equivalent		
1019	rounded to three digits:	E.G., 1459=150) (see note 5)		
1020				
1021	Selectivity code	1-9	(see note 6)	
1022	Enrollment code	1-9	(see note 7)	see codes,
1023	Percent women enrolled code	1-9	(see note 8)	page 33
1024	Percent graduate students enrolled code	1-9	(see note 9)	
1025	Education and General expenditures per student code		(see note 10)	see codes,
1026	Library expenditures per student code	1-9	(see note 11)	page 34
1027	Value of assets per student code	1-9	(see note 12)	
1028	Student/faculty ratio code	1-9	(see note 13)	
1029	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136)			
1030	(see note 14)			
1031				
1032	Tuition and fees code	1-9	(see note 15 and page 35)	
1033	Percent BAs in biological sciences	(agriculture and bio sci)	(see note 16)	
1034				
1035	Percent BAs in vocational areas	(architecture, communications, health professions,		
1036	home economics, library sciences	(math and physical science)	(see note 16)	
1037	Percent BAs in social sciences	(area studies, psychology, social science, law)		
1038			(see note 16)	
1039	Percent BAs in physical sciences	(math and physical science)	(see note 16)	
1040				
1041	Percent BAs in humanities	(fine arts, foreign languages, letters, theology)		
1042			(see note 16)	
1043	Percent BAs in engineering	(computer science, engineering)	(see note 16)	
1044				
1045	Percent BAs in business	(business only)	(see note 16)	
1046				

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HERI-SISFAP 11th-12th grade
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ATP-ACT Data

CHARACTER POSITION		
1047	Percent BAs in education (education only) (see note 16)	
1048		
1049	Highest degree offered(see page 35)	
1050	Affiliation (see note 17 and page 36)	
1051		
1052	Distance in miles from home to this institution	
1053	1=zero	
1054	0=missing data (if zip code not valid) (see note 18)	
1055		END DATA COLLEGE CHOICE #6
1056	Mean college choice selectivity (see note 27)	
1057		
1058	Mean college choice size (see note 28)	
1059		
1060	Mean college choice tuition and fees (see note 29)	
1061		
1062	Mean college choice distance from home to college (see note 30)	
1063		
1064		
1065		END OF COLLEGE CHOICE DATA
1066	BLANK (see note 31)	
1067		
1068		
1069	Common verbal aptitude score divided by ten	NO MISSING DATA (see note 32)
1070		
1071	Common mathematical aptitude score divided by ten	NO MISSING DATA (see note 33)
1072		
1073	High School GPA 1=0.5-0.9, 2=1.0-1.4, 3=1.5-1.9, 4=2.0-2.4, 5=2.5-2.9, 6=3.0-3.4, 7=3.5-4.0 (see note 34)	
1074	Income 1=$3,000, 2=$3-$5,999, 3=$6-7,499, 4=$7,500-,999, 5=$9-$11,999 6=$12-$14,999, 7=$15-$19,999, 8=$20,000 + (see note 35)	
1075	Race 1=white, 2=black, 3=American Indian, 4=Oriental, 5=Mexican American, 6=Puerto Rican American, 7= other (see note 36)	
1076	English spoken at home? 1=no 2=yes (see note 37)	
1077	Number of dependents 1=none, 2=one, 3=two, 4=three, 5=four, 6=five, 7=six+ (note 38)	
1078	Anticipated residence at college 1=parents, 2=residence hall, 3=fraternity, 4=other campus housing, 5=off-campus apartment (see note 39)	
1079	High school type 1=public, 2=private or other (see note 40)	
1080	High school program 1=college prep, 2=bus. or voc., 3=general or other (note 41)	
1081	High school size 1=less than 100, 2=100 or more (see note 42)	
1082	Athletics	
1083	Ethnic or racial	High School Extracurricular Activities
1084	Journalism, debate, drama	
1085	Music	1=no
1086	Departmental or pre-professional	2=yes
1087	Religious	
1088	Social clubs and community organization	(see note 43)
1089	Student government	
1090	English Years of Study	1=none
1091	Math	2=one year or less
1092	Foreign language (see note [illegible])	3=up to two years
1093	Natural sciences	4=up to three years
1094	Social studies	5=more than three yrs.

CHARACTER
POSITION

1095	Highest degree planned	1=vocational, 2=AA, 3=BA, 4=MA, 5=doctoral or prof. 6=other or undecided (see note 45)
1096	Educational and vocational plans	Need Help In
1097	Math	
1098	Personal counseling	1=no
1099	Reading	2=yes
1100	Study skills	
1101	Writing	(see note 46)
1102	Athletics	College Extracurricular Activities
1103	Ethnic or racial	
1104	Journalism, debate, drama	1=no
1105	Music	2=yes
1106	Departmental or pre-professional	
1107	Religious	
1108	Social or community service	(see note 43)
1109	Student government	
1110	College major field of study	(see note 47 and pp. 39-41)
1111		
1112		
1113	Collapsed major	(see note 48 and page 42)
1114		
1115	English	Plan to Apply for Advanced Placement
1116	Math	1=no
1117	Foreign language	2=yes (see note 49)
1118	Natural science	
1119	Rank in class	3=top quarter, 2=middle, 1=bottom quarter (see note 50)
1120		
1121		
1122		
1123		
1124		
1125		
1126		
1127		
1128	BLANK	
1129		
1130		
1131		
1132		
1133		
1134		
1135		
1136		
1137		
1138		
1139		
1140		
1141		
1142		
1143		
1144		

CHARACTER POSITION		
1145		
1146		
1147		
1148		
1149		
1150		
1151		
1152		
1153		
1154		
1155	BLANK	
1156		
1157		
1158		
1159		
1160		
1161		
1162		
1163		
1164		
1165	Enrolled in first choice college	1=no, 2=yes (see note 53)
1166	Enrolled in one of six 12th grade choices	1=no, 2=yes (see note 54)
1167	Applied/accepted status (see note 55)	1=didn't apply to first 12th grade choice 2=applied but not accepted to 1st 12th grade choice 3=applied and accepted to 1st 12th grade choice
1168	Applied to first 12th grade choice	1=no, 2=yes (see note 56)
1169	Accepted by first 12th grade choice	1=no, 2=yes (see note 57)
1170	Any of up to four applications was in six 12th grade choices	1=no, 2=yes (note 58)
1171	Any of up to four acceptances was in six 12th grade choices	1=no, 2=yes (note 58A
1172	High School GPA (calculated percentage, range=55-95 (see note 59)	
1173		
1174	BLANK	***END ATP-ACT DATA***
1175	WEIGHT indicator	1=not to be weighted, 2=to be weighted (see note 61)
1176		
1177	BLANK	
1178		
1179		
1180	Weight 1 --	Census weight x 10.0 (Estimate population from census data;weighted by
1181	F3.1	race, family income, sex, and home state) (see note 63)
1182		
1183	Weight 2 --	Within institution correction x 10.0 for test taking bias
1184		(Adjusts within CIRP college for nontestakers (ACT or SAT) by high
1185	F3.1	school grade, sex, and yr. graduated from H.S.) (see note 64)
1186	Weight 3 --	CIRP population weight x 10.0. Product of weight and the CIRP sample
1187		weight. (Estimates population of entering college freshmen from HEGIS
1188		and CIRP data' weighted by H.S. grades and institution type) (see note 65
1189		
1190		
1191	BLANK	
1192		
1193		
1194		

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TAPE LAYOUT SHEET
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PSAT Data

CHARACTER POSITION		
1195		BEGIN PSAT DATA
1196	U.S. citizen	2=yes, 1=no
1197	Year planning to complete high school	73=1973, 74=1974, 75=1975, 98=other
1198		99=not graduating or not planning to attend college
1199	Year planning to enter college	73=1973, 74=1974, 75=1975, 98=other
1200		99=not graduating or not planning to attend college
1201	High school GPA	7=A; 6=A- or B+; 5=B; 4=B-; 3=C; 2=C- or D; 1=0
1202 1203	College major choice code	(see note 66)
1204 1205	Career choice code	(see note 67)
1206	NSSFNS school indicator	2=yes, state wishes to be considered 1=no (see note 67B)
1207 1208 1209	BLANK	
1210		
1211	First choice college type	1=public 4-yr; 2=private 4-yr; 3=public 2-yr; 4=private
1212		2-yr; 5=other; 6=undecided
1213 1214 1215	BLANK	
1216	Second choice college type	same as column 1211
1217 1218	Verbal converted score	20-80 (no missing data)
1219 1220	Verbal percentile	1-99
1221 1222	Math converted score	20-80
1223 1224	Math percentile	1-99
1225	Plan to complete high school in three years or less	2=yes, 1=no
1226	Number of college codes in PSAT 0-2	(zero is a valid number - no missing data)
1227 1228 1229 1230 1231 1232	BLANK	BEGIN DATA ON FIRST CHOICE PSAT COLLEGE
1233 1234 1235 1236	BLANK	
1237 1238	State	58 categories see page 30
1239	Region	9 categories see page 31
1240 1241 1242 1243 1244	BLANK	
1245	Race of Institution	1-white; 2=black

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TAPE LAYOUT
HERI-SISFAP 11th-12th grade
freshman file
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PSAT Data

CHARACTER POSITION				
1246	Control	1=public; 2-private		
1247	Type	1=univ; 1=other 4-yr; 3=other 2-yr; 4=4-yr. branch of multiuniversity; 5=2-yr branch of multiuniversity; 6=2-yr branch of multi-four-year institution		
1248 1249	17 Category Institution Code (see note 3 and page 32)			
1250	Prestige	1-9 (see note 4 and page 32)		
1251 1252 1253	Selectivity divided by ten rounded to three digits:	(Mean institutional SAT V+M or equivalent E.G., 1459=150) (see note 5)		
1254	Selectivity code	1-9	(see note 6)	
1255	Enrollment code	1-9	(see note 7)	see codes, page 33
1256	Percent women enrolled code	1-9	(see note 8)	
1257	Percent graduate students enrolled code	1-9	(see note 9)	
1258	Education and General expenditures per student code		(see note 10)	see codes, page 34
1259	Library expenditures per student code	1-9	(see note 11)	
1260	Value of assets per student code	1-9	(see note 12)	
1261	Student/faculty ratio code	1-9	(see note 13)	
1262 1263 1264	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136) (see note 14)			
1265	Tuition and fees code	1-9	(see note 15 and page 35)	
1266 1267	Percent BAs in biological sciences	(agriculture and bio sci)	(see note 16)	
1268 1269	Percent BAs in vocational areas	(architecture, communications, health professions, home economics, library sciences (math and physical science)	(see note 16)	
1270 1271	Percent BAs in social sciences	(area studies, psychology, social science, law)	(see note 16)	
1272 1273	Percent BAs in physical sciences	(math and physical science)	(see note 16)	
1274 1275	Percent BAs in humanities	(fine arts, foreign languages, letters, theology)	(see note 16)	
1276 1277	Percent BAs in engineering	(computer science, engineering)	(see note 16)	
1278 1279	Percent BAs in business	(business only)	(see note 16)	
1280 1281	Percent BAs in education	(education only)	(see note 16)	
1282	Highest degree offered 1-7	(see page 35)		
1283 1284	Affiliation	(see note 17 and page 36)		
1285 1286 1287 1288	Distance in miles from home to this institution 1=zero or one mile 0=missing data (if zip code not valid)	(see note 18)		
1289 1290 1291 1292 1293 1294	BLANK	college choice #2, institutional data (note 26A)		
1295 1296 1297 1298	BLANK			

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TAPE LAYOUT
HERI-SISFAP 11th-12th grade
freshman file
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PSAT Data

CHARACTER
POSITION

1299	**State**	58 categories	see page 30	
1300				
1301	**Region**	9 categories	see page 31	
1302				
1303				
1304	BLANK			
1305				
1306				
1307	**Race of Institution**	1=white; 2=black		
1308	**Control**	1=public; 2-private		
1309	**Type**	1=univ; 1=other 4-yr; 3=other 2-yr; 4=4-yr. branch of multiuniversity; 5=2-yr branch of multiuniversity; 6=2-yr branch of multi-four-year institution		
1310	**17 Category Institution Code**			
1311	**(see note 3 and page 32)**			
1312	**Prestige**	1-9 (see note 4 and page 32)		
1313	**Selectivity divided by ten rounded to three digits:**	(Mean institutional SAT V+M or equivalent E.G., 1459=150)	(see note 5)	
1314				
1315				
1316	Selectivity code	1-9	(see note 6)	
1317	Enrollment code	1-9	(see note 7)	see codes, page 33
1318	Percent women enrolled code	1-9	(see note 8)	
1319	Percent graduate students enrolled code	1-9	(see note 9)	
1320	Education and General expenditures per student code		(see note 10)	see codes, page 34
1321	Library expenditures per student code	1-9	(see note 11)	
1322	Value of assets per student code	1-9	(see note 12)	
1323	Student/faculty ratio code	1-9	(see note 13)	
1324	Tuition and fees divided by ten (rounded to three digits: e.g., $1356=136)		(see note 14)	
1325				
1326				
1327	Tuition and fees code	1-9	(see note 15 and page 35)	
1328	Percent BAs in biological sciences	(agriculture and bio sci)	(see note 16)	
1329				
1330	Percent BAs in vocational areas	(architecture, communications, health professions, home economics, library sciences (math and physical science)	(see note 16)	
1331				
1332	Percent BAs in social sciences	(area studies, psychology, social science, law)	(see note 16)	
1333				
1334	Percent BAs in physical sciences	(math and physical science)	(see note 16)	
1335				
1336	Percent BAs in humanities	(fine arts, foreign languages, letters, theology)	(see note 16)	
1337				
1338	Percent BAs in engineering	(computer science, engineering)	(see note 16)	
1339				
1340	Percent BAs in business	(business only)	(see note 16)	
1341				
1342	Percent BAs in education	(education only)	(see note 16)	
1343				
1344	Highest degree offered 1-7		(see page 35)	
1345	Affiliation		(see note 17 and page 36)	
1346				
1347	Distance in miles from home to this institution 1=zero or one mile 0=missing data (if zip code not valid)		(see note 18)	
1348				
1349				
1350				

TAPE LAYOUT
HERI-SISFAP 11th-12th grade
Freshman file
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PSAT Data

CHARACTER POSITION	
1351	Mean selectivity of institutions in PSAT record divided by 100 4-16 (see note 19)
1352	
1353	Mean tuition and fees of institutions in PSAT record divided by 100 (see note21.)
1354	
1355	Mean coded enrollment of institution in PSAT record (f2.1) (see note 20)
1356	
1357	Mean distance from home to college of institutions in PSAT record (see note 22)
1358	
1359	
1360	END PSAT DATA
1361	Enrolled in 11th grade first choice institution 1=no; 2=yes (see note 68)
1362	Enrolled in any of 11th grade choices 1=no; 2=yes (see note 69)
1363	Applied to first 11th grade choice 1=no; 2=yes (see note 70)
1364	Accepted at first 11th grade choice 1=no; 2=yes (see note 71)
1365	Applied to any 11th grade choice 1=no; 2=yes (see note 72)
1366	Accepted at any 11th grade choice 1=no; 2=yes (see note 73)
1367	BEGIN HOME ZIPCODE DATA (see note 74) Distance to nearest public two-year college 1-999
1368	
1369	
1370	Distance to nearest public four-year college 1-999
1371	
1372	
1373	Distance to nearest low selectivity public university (prestige < 5) 1-999
1374	
1375	
1376	Distance to nearest high selectivity public university (selectivity ≥ 1020 and prestige = 5) or (prestige > 5) 1-999
1377	
1378	
1379	Distance to nearest public black college 1-999
1380	
1381	
1382	Number of private low selectivity colleges within 25 miles (sel < 1050) 1-9
1383	Number of private medium selectivity colleges within 25 miles (sel 1050-1174) 1-9
1384	Number of private high selectivity colleges within 25 miles (sel > 1175) 1-9
1385	Distance to nearest private black college 1-999
1386	
1387	
1388	Distance to nearest low selectivity Catholic college (sel < 1050) 1-999
1389	
1390	
1391	Distance to nearest high selectivity Catholic college (sel > 1050) 1-999
1392	
1393	
1394	Number of low selectivity Protestant colleges within 25 miles (sel=< 1050) 1-9
1395	Number of high selectivity Protestant colleges within 25 miles (sel=≥1050) 1-9
1396	Percent unemployed (F4.2) (see note 74)
1397	
1398	
1399	
1400	

CHARACTER POSITION		
1401 1402	**Average Weekly earnings**	
1403 1404 1405	NDSL/STUDENT	Total National Direct Student Loan dollars divided by total FTE Enrollment
1406 1407 1408	CWSP/STUDENT	Total college Work Study Dollars divided by total FTE Enrollment
1409 1410 1411	SEOG/STUDENT	Total supplementary Educational Opportunity Grant Dollars divided by total FTE undergraduate enrollment
1412 1413 1414	GSL/STUDENT	Total Guaranteed Student Loan dollars divided by total FTE enrollment
1415 1416 1417	BEOG/STUDENT	Total Basic Educational Opportunity Grant dollars divided by total FTE undergraduate enrollment
1418 1419 1420	SSIG/STUDENT	Total State Student Incentive Grant Dollars divided by total FTE undergraduate enrollment
1421 1422 1423	TOTAID/STUDENT	Total federal aid dollars (NDSL+GSL+CWSP+SEOG+BEOG+SSIG) divided by total FTE enrollment
1424 1425 1426	LOANS/STUDENT	Total federal loan dollars (GSL+NDSL) divided by total FTE enrollment
1427 1428 1429	GRANTS/STUDENT	Total federal grant dollars (SEOG+BEOG+SSIG) divided by total FTE undergraduate enrollment
1430 1431 1432	LOANS/TOTAID	Percent loans: total loan dollars divided by total federal aid dollars X 100 (NDSL+GSL)/(NDSL+GSL+CWSP+SEOG+GEOG+SSIG)
1433 1434 1435	GRANTS/TOTAID	Percent grants: total federal grant dollars divided by total federal aid dollars X 1000 (NDSL+GSL)/(NDSL+GSL+CWSP+SEOG+BEOG+SSIG)
1436 1437 1438	SSAID/RECIPIENT	State Aid per recipient: Total state Student aid dollars divided number of recipients
1439 1440 1441	SSAID#/STUDENT	Percent receiving state aid: Number of state student aid awards divided by total FTE enrollment X 1000
1442 1443 1444	SSAID$/STUDENT	State Aid per student: Total state student aid dollars divided by total FTE enrollment
1445 1446 1447	FED-STAID/STUDENT	Grand total Aid per student: Total federal and state aid (NDSL+GSL+CWSP+SEOG BEOG+SSIG+SSAID$) divided by total FTE enrollment
1448 1449	CWSP/TOTAID	Percent work study: Total College Work Study dollars divided by total aid dollars CWSP/(NDSL+GSL+CWSP+SEOG+BEOG+SSIG) X 100

CHARACTER POSITION

1451		
1452	PCTGRAD	Percent graduate enrollment: Total FTE graduate enrollment divided by total FTE enrollment X 100
1453		
1454		
1455		
1456		
1457	TOTAID	Total federal aid dollars (NDSL+GSL+CWSP+BEOG+SEOG+SSIG)
1458		
1459		
1460		
1461		
1462		
1463		
1464	Blank	END OF FILE

NOTE A: FURTHER DETAIL ON CIRP CODES

Column(s)		
28	Year Graduate from high school	1=1975 2=1974 3=1973 4=1972/earlier 5=did not graduate, but passed G.E.D. 6=never completed high school
77	Total income independent of parents	1=none 2=$500 3=$500-$999 4=$1000-$1999 5=$2000-$2999 6=$3000-$4999 7=$5000-$9999 8=$10,000+
98 99	Highest degree planned, ever Highest degree planned, this college	1=none 2=AA or equiv. 3=BA 4=MA 5=Ph.D. or Ed.D. 6=M.D., D.O., D.D.S. D.V.M. 7=LL.B. or J.D. (law) 8=B.D. or M. Div. 9=other
100 101	Where plan to live Where prefer to live	1=with parents or relatives 2=other private home, apt., or room 3=college dorm 4=fraternity or sorority house 5=other campus student housing 6=other
111-112	Parents' income last year	1=less than $3000 2=$3000-$3999 3=$4000-5999 4=$6000-7999 5=$8000-9999 6=$10,000-12,499 7=$12,500-14,999 8=$15,000-19,999 9=$20,000-24,999 10=$25,000-29,999 11=$30,000-39,999 12=$35,000-39,999 13=$40,000-49,999 14=$50,000 or more
113 114	Father's education Mother's education	1-grammar school or less 2=some high school 3=high school graduate 4=postsecondary school other than college 5=some college 6=college degree 7=some graduate school 8=graduate degree
115-116 117-118 119-120	Student's probable occupation Father's occupation Mother's occupation	1=Accountant or auditor 2=Architect or urban planner 3=Artist (painting, sculpture, etc.)

NOTE A (continued)

occupations (continued)

4=Business-banker or financier
5=Business-buyer or purchasing agent
6=Business-manager or administrator
7=Business-owner or proprietor
8=Business-public relations/advertising
9=Business-sales worker
10=Carpenter
11=Clergy or religious worker
12=Clerical-secretary, steno, typist, bookkeeper
13=Clerical-other
14=Commercial artist, designer, decorator
15=Computer programmer/analyst
16=Construction craftsman, n.e.c.
17=Counselor-guidance, family, school
18=Dentist (including orthodontist)
19=Draftsman
20=Driver-truck, taxi, or bus
21=Electrician
22=Engineer
23=Factory worker, n.e.c.
24=Farm or ranch laborer
25=Farm or ranch owner or manager
26=Foreman, n.e.c.
27=Forester, conservationist, fish or wildlife specialist
28=Government official, administrator, or politician
29=Home economist or dietitian
30=Homemaker (full-time)
31=Lawyer or judge
32=Librarian or archivist
33=Laborer (unskilled or semiskilled)
34=Law enforcement officer
35=Mathematician, statistician, actuary
36=Mechanic, machinist, repairman
37=Military (career)
38=Nurse
39=Optometrist
40=Performing artist, musician, entertainer
41=Pharmacist, pharmacologist
42=Physician, surgeon
43=Plumber
44=Psychologist (clinical, therapist)
45=Scientific researcher
46=Service worker-priv. household (maid, cook, etc.)
47=Service-protective (not law enforcement)
48=Service-other
49=Skilled tradesman, n.e.c.
50=Social, welfare, recreation worker
51=Teacher, professor, administrator-college or university

Column(s)

Occupations (continued

52=Teacher or administrator-secondary
53=Teacher or administrator-elementary
54=Teacher or education specialist other than above
55=Technician or technologist (health)
56=Technician or technologist (other)
57=Therapist (physical,occupational, speech)
58=Veterinarian
59=Writer, journalist, interpreter
60=Other occupation, n.e.c.
61=Unemployed
62=Undecided

121-122 Student's religious preference
123-124 Father's religious preference
125-126 Mother's religious preference

1=Baptist
2=Congregational (U.C.C.)
3=Eastern Orthodox
4=Episcopal
5=Jewish
6=Latter Day Saints (Mormon)
7=Lutheran
8=Methodist
9=Muslim
10=Presbytarian
11=Quaker (Society of Friends)
12=Roman Catholic
13=Seventh Day Adventist
14=Unitarian-Universalist
15=Other Protestant
16=Other Religion
17=None

156-157 Undergraduate Major

1=Art, fine and applied
2=English (language and literature)
3=History
4=Journalism
5=Language and Literature (not English)
6=Music
7=Philosophy
8=Speech and Drama
9=Theology or religion
10=Other arts and humanities
11=Biology (general)
12=Biochemistry or biophysics
13=Botany
14=Marine (life) science
15=Microbiology or bacteriology
16=Zoology
17=Other biological sciences
18=Accounting
19=Business administration (general)
20=Finance
21=Marketing

Column(s)

major (continued

22=Management
23=Secretarial studies
24=Other business
25=Business education
26=Elementary education
27=Music or art education
28=Physical education or recreation
29=Secondary education
30=Special education
31=Other education
32=Aeronautical or astronautical
33=Civil engineering
34=Chemical engineering
35=Electircal or electronic engineering
36=Industrial engineering
37=Mechanical engineering
38=Other engineering
39=Astronomy
40=Atmospheric science (incl. meterology)
41=Chemistry
42=Earth science
43=Marine science (incl. oceanography)
44=Mathematics
45=Physics
46=Statistics
47=Other physical science
48=Architecture or urban planning
49=Home Economics
50=Health technology (medical, dental, laboratory)
51=Library or archival science
52=Nursing
53=Pharmacy
54=Therapy (occupational, physical, speech)
55=Other professional
56=Anthropology
57=Economics
58=Geography
59=Political science (gov't, international relations)
60=Psychology
61=Social work
62=Sociology
63=Other social science
64=Building trades
65=Data processing/computer programming
66=Drafting/design
67=Electronics
68=Mechanics
69=Other technical
70=Agriculture
71=Communications (radio, TV, etc.)

Column(s)

major (continued)

72=Computer science
73=Forestry
74=Law enforcement
75=Military science
76=Other field
77=Undecided

352 CIRP Stratification Cells*

01 = predom. white, pub. univer, low sel
02 = predom. white, pub. univer, med sel
03 = predom. white, pub. univer, high sel
04 = predom. white, pri. univer, low sel
05 = predom. white, pri. univer. med. sel
06 = predom. white, pri. univer. high sel
07 = predom. white, pub. 4/yr, low sel
08 predom. white, pub. 4/yr, med sel
09 = predom. white, pub. 4/yr, high sel
10 = predom. white, pub. 4/yr, missing sel
11 = predom. white, pri-nonsec, 4/yr, low sel
12 = predom white, pri-nonsec, 4/yr, med sel
13 = predom. white, pri-nonsec, 4/yr, high
14 = predom. white, pri-nonsec, 4/yr, very
15 = predom. white, pri-nonsec, 4/yr, no sel
16 = predom. white, Rom Cath 4/yr. low sel
17 = predom. white, Rom Cath 4/yr. med sel
18 = predom. white, Rom Cath 4/yr. high sel
19 = predom. white, Rom Cath 4/yr very high
20 = predom. white, Rom Cath 4/yr no sel
21 = predom. white, Prot 4/yr, low sel
22 = predom. white, Prot 4/yr, med sel
23 = predom. white, Prot 4/yr, high sel
24 = predom. white, Prot. 4/yr, very high sel
25 = predom. white, Prot. 4/yr, missing sel
26 = predom. white, pub 2/yr, enrol 100
27 = predom. white, pub 2/yr, enrol 100-249
28 = predom. white, pub 2/yr, enrol 250-499
29 = predom. white, pub 2/yr, enrol 500-999
29 = predom. white, pub 2/yr, enrol 1,000
30 = predom. white, pri 2/yr, enrol 100
31 = predom. white, pri 2/yr, enrol 100-249
32 = predom. white, pri 2/yr, enrol 250-499
33 = predom. white, pri 2/yr, enrol 500
34 = predom. black, 4/yr, public colleges
35 = predom. black, 4/yr, private colleges
36 = predom. black, 2/yr, public colleges
37 = predom. black, 2/yr, private colleges

359-362 CIRP population weights (to be used only for all participants in 1975 CIRP;
363-366 not useful in this field, but used to compute Weight 3 (columns 1186-1188).
See note 65.

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* For details on stratification scheme, see Astin, A.W., King, M.R. and Richardson, G.T. The American Freshman: National Norms for Fall 1975. Los Angeles: Graduate School of Education, University of California at Los Angeles, 1975.

NOTE A (continued)

Column(s)

418-419
480-481
542-543
604-605
694-695
756-757
818-819
880-881
942-943
1004-1005
1237-1238
1299-1300

State in which institution is located

1 = Alabama
2 = Alaska
3 = Arizona
4 = Arkansas
5 = California
6 = Colorado
7 = Connecticut
8 = Delaware
9 = District of Col.
10 = Florida
11 = Georgia
12 = Hawaii
13 = Idaho
14 = Illinois
15 = Indiana
16 = Iowa
17 = Kansas
18 = Kentucky
19 = Louisiana
20 = Maine
21 = Maryland
22 = Massachusetts
23 = Michigan
24 = Minnesota
25 = Mississippi
26 = Missouri
27 = Montana
28 = Nebraska
29 = Nevada
30 = New Hampshire
31 = New Jersey
32 = New Mexico
33 = New York
34 = North Carolina
35 = North Dakota
36 = Ohio
37 = Oklahoma
38 = Oregon
39 = Pennsylvania
40 = Rhode Island

Column(s)

State in which institution is located (continued)

:

41 = South Carolina
42 = South Dakota
43 = Tennessee
44 = Texas
45 = Utah
46 = Vermont
47 = Virginia
48 = Washington
49 = West Virginia
50 = Wisconsin
51 = Wyoming
52 = US Service Schools
53 = American Samoa
54 = Canal Zone
55 = Guam
56 = Puerto Rico
57 = Trust Terr Pac Is
58 = Virgin Islands

420
482
544
606
696
758
820
882
944
1006
1239
1301

Region

1 = New England (Conn, ME, Mass, NH, RI, VE)
2 = Mid East (Del, DC, MD, NJ, NY, Pa)
3 = Great Lakes (Ill, Ind, Mich, Oh, Wis)
4 = Plains (Io, Ks, Minn, Mo, Neb, ND, SD)
5 = Southeast (Ala, Ark, Fla, Ga, Ky, La, Miss, NC, SC, Tenn, Va, WVa)
6 = Southwest (Az, NM, Ok, Tx)
7 = Rocky Mountains (Col, Id, Mont, Ut, Wy)
8 = Far West (Ak, Cal, Hi, Nev, Ore, Wa)
9 = Outlying Areas (American Samoa, Canal Zone, Guam, Puerto Rico, Trust Terr Pac Is, Virgin Islands)

Column(s)			
435	Selectivity Coded		
497			
559		1	less than 775
621		2	775-849
711		3	850-924
773		4	925-999
835		5	1000-1074
897		6	1075-1149
959		7	1150-1224
1021		8	1125-1299
1254		9	1300+
1316			
436	Enrollment		
498		1	less than 250
560		2	250-499
622		3	500-999
712		4	1000-1499
774		5	1500-1999
836		6	2000-4999
898		7	5000-9999
960		8	10000-19999
1022		9	20000 or more
1255			
1317			
437	Percent Women Coded		
499		1	0
561		2	1-9
623		3	10-24
713		4	25-44
775		5	45-54
834		6	55-74
899		7	75-90
1023		8	91-99
1256		9	100
1318			
438	Percent Graduate Students Coded		
500			
562		1	0
624		2	1-5
714		3	6-10
776		4	11-15
838		5	16-20
900		6	21-25
962		7	26-30
1024		8	31-40
1257		9	over 40
1319			

NOTE A (continued)

Column(s)

439 Education and General Expenditures per Student Coded
501
563
625
715
777
839
901
963
1025
1258
1320

1 less than 1000
2 1000-1499
3 1500-1999
4 2000-2499
5 2500-2999
6 3000-3499
7 3500-3999
8 4000 or more

440 Library Expenditures per Student Coded
502
564
626
716
778
840
902
964
1026
1259
1321

1 less than $50
2 50-99
3 100-149
4 150-199
5 200-249
6 250-299
7 300-349
8 350-399
9 400 or more

441 Value of Assets per Student Coded
503
565
627
717
779
841
903
965
1027
1260
1320

1 less than 2000
2 2000-3999
3 4000-5999
4 6000-7999
5 8000-11999
6 12000-15999
7 16000-19999
8 20000-29999
9 30000+

442 Student Faculty Ratio Coded
504
566
628
718
780
842
904
966
1028
1261
1323

1 less than 10 to 1
2 10-12
3 13-15
4 16-18
5 19-21
6 22-24
7 25-27
8 28-30
9 more than 30

Column(s)		
446 508 570 632 722 784 846 908 870 1032 1265 1327	Tuition and Fees	1 less than 250 2 250-499 3 500-999 4 1000-1499 5 1500-1999 6 2000-2499 7 2500-2999 8 3000-3499 9 3500 or more
447-462 573-586 633-648 785-800 847-862 909-924 971-946 1033-1048 1266-1280 1328-1343	Percent BAs in:	biological sciences vocational areas social sciences physical sciences humanities engineering business education Value indicated is one greater than the actual percentage (0=missing data) (e.g., 1=0% 2=1% 3=2% . . . 98=97% 99=98%, 99%, 100%)
463 525 587 649 739 801 863 925 987 1049 1281 1344	Highest Degree Offered	1 Two but less than four years 2 Four or five-year baccalaureate 3 First-professional degree 4 Master's 5 Beyond Master;s but less than doctorat 6 Doctorate 7 Undergraduate non-degree granting

Affiliation

2 digit code first digit: 1 - public 2-9 = private

464-465
526-527
588-589
650-651
740-741
802-803
864-865
926-927
988-989
1050-1051
1282-1283
1345-1346

11 Federal
12 State
13 Local
14 State and local
15 State related
21 Independent, non-profit
25 Organized as profit-making
26 Advent Christian Church
51 African Methodist
24 African Methodist Episcopal Zion Church
52 American Baptist
22 American Evangelical Lutheran Church
53 American Lutheran
46 American Lutheran and Lutheran Church in America
23 American Missionary Association
27 Assemblies of God Church
54 Baptist
28 Brethren Church
29 Brethren in Christ Church
34 Christian and Missionary Alliance Church
61 Christian Church
55 Christian Methodist Episcopal
35 Christian Reformed Church
56 Church of Christ
57 Church of God
31 Church of God in Christ
32 Church of New Jerusalem
58 Church of the Brethren
59 Church of the Nazarene
60 Cumberland Presbyterian
40 Evangelical and Reformed Church
36 Evangelical Congregational Church
37 Evangelical Covenant Church of America
38 Evangelical Free Church of America
39 Evangelical Lutheran Church
62 Evangelical United Brethren
64 Free Methodist
41 Free will Baptist Church
63 Friends
63 Friends United Meeting

70 General Conference Mennonite Church
91 Greek Orthodox
42 Interdenominational
80 Jewish
94 Latter Day Saints
67 Lutheran Church in America
68 Lutheran Church-Missouri Synod
43 Mennonite Brethren Church
69 Mennonite Church
44 Moravian Church
78 Multiple Protestant Denominations
46 North American Baptist
79 Other Protestant
47 Pentecostal Holiness
72 Presbyterian, U.S.
66 Presbyterian, U.S., United Presbyterian
73 Protestant Episcopal
49 Reformed Church in America
50 Reformed Episcopal Church
81 Reformed Presbyterian Church
82 Reorganized Latter Day Saints Church
30 Roman Catholic
92 Russian Orthodox
95 Seventh Day Adventists
93 Seventh Day Baptist Church
75 Southern Baptist
88 Undenominational
93 Unitarian Universalist
84 United Brethren
85 United Christian Mission Society
76 United Church of Christ
86 United Lutheran Church
71 United Methodist
87 United Missionary Church
77 United Presbyterian, USA
89 Wesleyan Church
33 Wisconsin Evangelist Lutheran Synod
90 Young Men's Christian Association
99 Other

500

Column(s)			
676-677	State of Residence	Ala.	01
		Alaska	02
		Ariz.	03
		Ark.	04
		Calif.	05
		Colo.	06
		Conn.	07
		Del.	08
		D.C.	09
		Fla.	10
		Ga.	11
		Hawaii	12
		Idaho	13
		Ill.	14
		Ind.	15
		Iowa	16
		Kans.	17
		Ky.	18
		La.	19
		Maine	20
		Md.	21
		Mass.	22
		Mich.	23
		Minn.	24
		Miss.	25
		Mo.	26
		Mont.	27
		Nebr.	28
		Nev.	29
		N.H.	30
		N.J.	31
		N. Mex.	32
		N.Y.	33
		N.C.	34
		N. Dak.	35
		Ohio	36
		Okla.	37
		Oreg.	38
		Pa.	39
		R.I.	40
		S.C.	41
		S. Dak.	42
		Tenn.	43
		Tex.	44
		Utah	45
		Vt.	46
		Va.	47
		Wash.	48
		W. Va.	49
		Wis.	50
		Wyo.	51
		All other	52

Column(s)			
1110-1112	College Major Field of Study	001	AGRICULTURE
		002	agriculture economics
		003	agronomy, field crops
		004	animal science
		005	fish and game, wildlife management
		006	food science
		007	horticulture
		008	ARCHITECTURE
		009	ART
		010	art history
		011	commercial art
		012	graphic arts
		013	interior decorating
		014	photography
		015	BIOLOGICAL SCIENCES
		016	biochemistry
		017	biology
		018	botany
		019	ecology
		020	zoology
		021	BUSINESS AND COMMERCE
		022	accounting
		023	advertising
		024	business management and administratio
		025	finance and banking
		026	hotel and restaurant administration
		027	industrial management
		028	real estate
		029	sales and retailing
		030	secretarial studies
		031	transportation and commerce
		032	COMMUNICATIONS
		033	journalism
		034	radio and television
		035	COMPUTER SCIENCES AND SYSTEMS ANALYSI
		036	computer science
		037	data processing
		038	systems analysis
		039	EDUCATION
		040	agricultural education
		041	art education
		042	business education
		043	special education
		044	elementary education
		045	health education
		046	industrial arts education

College major Field of Study
(continued)

047 music education
048 physical education
049 secondary education
050 speech and hearing

051 ENGINEERING
052 aerospace and aeronautical engineerin
053 agricultural engineering
054 air-conditioning engineering
055 architectural engineering
056 chemical engineering
057 civil engineering
058 drafting
059 electrical engineering
060 industrial and management engineering
061 mechanical engineering
062 metallurgical engineering
063 mining and mineral engineering
064 naval architecture and marine enginee
065 nuclear technology
066 petroleum engineering

067 ENGLISH AND LITERATURE
068 creative writing
069 literature
070 speech

071 ETHNIC STUDIES

072 FOREIGN LANGUAGES
073 Classical languages
074 French
075 German
076 Italian
077 linguistics
078 Russian
079 Spanish

080 FORESTRY AND CONSERVATION

081 GEOGRAPHY

082 HEALTH AND MEDICAL PROFESSIONS
083 dental assisting
084 dental hygiene
085 dental technology
086 health and safety
087 medical assisting
088 medical technology
089 nursing-practical
090 nursing-registered
091 occupational therapy
092 optometry
093 pharmacy
094 physical therapy

College Major Field of Study
(continued)

095 predentistry
096 premedicine
097 radiology and x-ray technology

098 HISTORY AND CULTURES

099 HOME ECONOMICS
100 clothing and textiles
101 family relations
102 food and nutrition
103 infant and child care
104 institution management

105 MATHEMATICS
106 statistics

107 MILITARY SCIENCE

108 MUSIC
109 music history

110 PHILOSOPHY
111 religion

112 PHYSICAL SCIENCES
113 astronomy
114 chemistry
115 earth science
116 geology
117 oceanography
118 physics

119 PSYCHOLOGY

120 SOCIAL SCIENCES
121 anthropology
122 economics
123 international relations
124 police science
125 political science
126 public administration
127 social work
128 sociology

129 DRAMATIC ARTS
130 dance

131 TRADE AND VOCATIONAL
132 automotive maintenance
133 aviation maintenance
134 carpentry

135 UNDECIDED AND OTHER

Column(s)

1113-1114 Collapsed Major Field of Study

01	Agriculture
02	Architecture
03	Art
04	Biological Sciences
05	Business and Commerce
06	Communications
07	Computer Science and Systems Analysis
08	Education
09	Engineering
10	English and Literature
11	Ethnic Studies
12	Foreign Languages
13	Forestry and Conservation
14	Geography
15	Health and Medical Professions
16	History and Cultures
17	Home Economics
18	Mathematics
19	Military Science
20	Music
21	Philosophy
22	Physical Sciences
23	Psychology
24	Social Sciences
25	Theater Arts
26	Trade and Vocational
27	Undecided and Other

NOTE B: Editing specifications for the 1975 CIRP freshman data (columns 1-407). Document-to-tape editing specifications are shown in the last page of this note.

In preparation for the merging of CIRP data with ACT and ETS data, a series of editing tasks were carried out in order to correct inconsistencies in the data and to put the continuous variables in appropriate form for regression analysis. This process involved three major tasks: replacing of missing data and invalid data, miscellaneous editing for internal consistency, and editing of the financial aid data.

Missing and invalid data. The layout sheet (codebook) for the CIRP file shows the values that were used to signify missing data or invalid data (that is, values that exceeded the designated upper or lower limits in the data field). Since the data fields were produced largely by optical scanning, few, if any fields contained invalid data. The general rule of thumb followed in determining what codes would be assigned to missing data was as follows. If a variable was a qualitative variable that did not form at least an ordinal scale (major field of study, for example), the value of zero was used to signify missing data (nonrespondents). If the variable existed in at least ordinal form (high school average, for example), invalid or missing responses were replaced with the modal response. The mode was determined from the published national norms (Astin, King, and Richardson, 1975).[*] All dummy variables were considered to be ordinal variables (thus, nonrespondents were assigned a value of "1." (A positive response on any dummy variable was coded as "2.") This procedure with dummy variables, 1 and 2 as opposed to the usual 0 and 1, was used to make it possible to differentiate between missing data and a negative response. Thus, a common code of 0 can be used to signify missing data on all variables. By creating dummy variables for every category of qualitative variables (religious preference, for example), nonrespondents have a unique configuration of responses (all "1's").

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[*] A count of the number of imputations is contained in positions 404-406.

Editing for internal consistency. The edited items are as follows:

1. Number of colleges applied to and accepted by. Note that in question 17B from the freshman survey questionnaire, the student indicates whether he or she was accepted at up to three additional institutions. If the total number of acceptances indicated on these questions is greater than the total number of additional applications indicated in item 15 or the total number of acceptances indicated in item 16, these items were set equal to the number of acceptances (up to three) indicated in item 17B.

2. The Basic Educational Opportunity Grant. Since the total amount of this grant cannot exceed $2,000, any responses in the top two intervals ($2,000 - $4,000 and over $4,000) were reduced to the highest possible category ($1,000 - $1,999) (Code 4).

3. Highest degree planned. If the highest degree planned at this college is higher than the "highest planned," or if the "highest planned" is a nonresponse, then the "highest planned" is set equal to the "highest planned at this college."

Financial aid. Because the responses to this question are highly complex and potentially inconsistent, an elaborate series of editing and checking procedures were introduced in order to convert the data into more reasonable and internally consistent form.

The complex editing and checking procedures involved a number of steps as follows:

Step 1. Responses to the specific categories of aid in item #18 were used to create a corresponding set of dollar values which equaled the mid-point of the interval:

Original Response Code	Dollar Value
1	0
2	$250
3	750
4	1,500
5	3,000
6	5,000

Step 2. A number of variables were defined as follows:

"grants 18" = sum of the assigned dollar values (from Step 1) for Basic Educational Opportunity Grant, Supplemental Educational Opportunity Grant, state scholarship or grant and local or private scholarship or grant.

"loans 18"= sum of the assigned dollar values (from Step 1) for Federal Guaranteed Student loan, National Direct Student loan, and other loan.

"work-study 18"= assigned dollar values (from Step 1) for college work-study grant.

"total 18"= grants 18 + loans 18 + work-study 18.

"grants 12"= dollar amount provided by student in response to "grants" from item 12.

"loans 12"= dollar amount provided by student in response to "loans" from item 12.

"work-study 12"= dollar amount provided by student in response to "work-study" from item 12.

"total 12"= grants 12 + loans 12 + work-study 12.

Step 3. The purpose of this step is to determine if the total for item #18 is unrealistically high. We arbitrarily chose the value of $7,000 as a liberal upper limit for the total amount of financial aid a student might have for one year. If total 18 happens to be greater than $7,000, go to Step 4. Otherwise, skip to Step 5.

Step 4. The purpose of this step is to edit the values for item #18 (from Step 2) so the total does not exceed $7,000. First, a correction factor was computed which equaled the ratio between $7,000 and the actual total 18. This correction factor was then multiplied separately times grants 18, loans 18, and work-study 18, and the total 18 was set to $7,000.

Step 5. If total 12 = 0, go to Step 6. If not, go to Step 7.

Step 6. If total 18 = 0, skip to Step 11. If not, skip to Step 8. (Note that this latter branch is necessary if total 12 and total 18 do not agree; that is, one is 0 but the other is not.)

Step 7. If total 12 is greater than $7,000, go to Step 8. If not, skip to Step 9.

Step 8. This step is required because something is wrong with total 12. Either it is greater than $7,000, or it has been found to be 0 while total 18 is not. In either case, the editing procedure is to set total 12 = total 18, grant 12 = grant 18, loan 12 = loan 18, and work-study 12 = work-study 18. Then skip to Step 11.

Step 9. If total 18 = 0, go to step 10. If not, skip to Step 11.

Step 10. This step is required because total 18 has been found to = 0 while total 12 has not. Thus, it is necessary to set total 18 = total 12, grant 18 = grant 12, loan 18 = loan 12, work-study 18 = work-study 12. Then go to Step 11.

Step 11. The purpose of this final step was to edit the responses to item 17C (the dollar amounts reported as offers for the three next-most-preferred institutions.) First, totals were computed separately for each of the three institutions by summing the amounts reported for grants, loans, and work-study (as described for item 12 in Step 2). If any total was found to be less than $7,000, it was left as is. If not, it was set to 0 along with the corresponding amounts for grants, loans, and work-study. The reason for this decision was that there was no basis for comparing these amounts, as in the case of item 12 (which could be compared with item 18). The decision to set the amounts equal to 0 was based on the assumption that the student either did not understand the item (perhaps reporting amounts for the four undergraduate years) or simply did not take the item seriously. The number of cases in which it was necessary to edit these values was extremely small (less than 1 percent of the students).

Note: The edited CIRP record includes codes indicating whether or not items 12, 17C, or 18 were edited.(see positions 367-371)

NOTE B (continued)

1975 Student Information Form

Specifications for Form Processing

F Item No.	Question	Valid Codes	Document-to-tape editing		Length of field (#)
			Multiple Response	No Response	
	College ID				6
	Special Grid (GRP)				2
	Subject ID				6
	ID Grid				9
1	Sex	1-2	Clerical*	Clerical*	1
2	Veteran Status	1-2	0	0	1
3	Age	1-10	0	0	2
4	Year Grad from HS	1-6	0	0	1
5	High School Program	1-2	0	0	1
6	High School Grades	1-8	Smaller	0	1
7	HS preparation	1-3		0	1(8)
8	Status	1-2	Larger	0	1
9	Prior credit (this)	1-2	0	0	1
10	Prior attn'd (other)	2	Not Possible	0	1(8)
11	Miles, college to home	1-6	0	0	1
13	Why Financial Aid	1-3	0	0	1(4)
14	Choice of college	1-3	Larger	0	1
15	Number other applic.	1-7	0	0	1
16	Number other accept.	1-7	0	0	1
17b	Accpt. at these col's.	1-2	0	0	1(3)
18	Educational expenses	1-6	0	0	1(17)
19	Total personal income	1-8	Smaller	0	1
20	Financial Independence	1-2	0	0	1(2)
21	Marital Status	1-3	0	0	1
22	Tests Taken	1-3	0	0	1(3)
23	Reasons for college	1-3	0	0	1(14)
24	Highest degree	1-9	Larger	0	1(2)
25	Where plan to live	1-6	0	0	1(2)
26	Race	2	Not Possible	1	1(7)
27	Financial Concern	1-3	0	0	1
28	Political Views	1-5	0	0	1
29	Parents' total income	1-14	Smaller	00	2
30	Parents' education	1-8	Smaller	0	1(2)
31	Occupation	1-62	00	00	2(3)
32	Religion	1-17	00	00	2(3)
33	Attitudes	1-4	Smaller	0	1(29)
34	Major Field	1-77	00	00	2
35	Goals/values	1-4	0	0	1(17)
36	Best Guess	1-4	0	0	1(23)
37-46	Optional Items	1-5	All fields blank	0	1(10)

* Nonresponse and muitiple response were replaced with actual sex based on visual inspection of student's name on questionnaire.

NOTE: For missing data codes for individual items, see pages 47a-d.

581464

MISSING OR INVALID DATA VALUES ARE WRITTEN NEXT TO EACH QUESTION

PLEASE PRINT: YOUR NAME ______ First ______ Middle or Maiden ______ Last ______

HOME STREET ADDRESS ______

CITY ______ STATE ______ ZIP CODE ______

When were you born? ☐☐ Month (01-12) ☐☐ Day (01-31) ☐☐ Year

1975 STUDENT INFORMATION FORM

DIRECTIONS

Your responses will be read by an optical mark reader. Your careful observance of these few simple rules will be most appreciated.

- Use only black lead pencil (No. 2 or less).
- Make heavy black marks that fill the circle.
- Erase cleanly any answer you wish to change.
- Make no stray markings of any kind.

EXAMPLE:

Will marks made with ball pen or fountain pen be properly read? Yes . . ○ No . . ●

Dear Student:

The information in this form is being collected as part of a continuing study of higher education conducted jointly by the American Council on Education and the University of California at Los Angeles. Your voluntary participation in this research is being solicited in order to achieve a better understanding of how students are affected by their college experiences. Detailed information on the goals and design of this research program are furnished in research reports available from the Laboratory for Research on Higher Education at UCLA. Identifying information has been requested in order to make subsequent mail follow-up studies possible. Your response will be held in the strictest professional confidence.

Sincerely, Alexander W. Astin

Alexander W. Astin, Director
Cooperative Institutional Research Program

DO NOT MARK IN THIS AREA

⓪	①	②	③	④	⑤	⑥	⑦	⑧	⑨	Ⓐ
⓪	①	②	③	④	⑤	⑥	⑦	⑧	⑨	④
⓪	①	②	③	④	⑤	⑥	⑦	⑧	⑨	③
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MARK IN THIS AREA ONLY IF DIRECTED									GRP. CODE	
⓪	⓪	⓪	⓪	⓪	⓪	⓪	⓪	⓪	⓪	⓪
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⑦	⑦	⑦	⑦	⑦	⑦	⑦	⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧	⑧	⑧	⑧	⑧	⑧	⑧	⑧
⑨	⑨	⑨	⑨	⑨	⑨	⑨	⑨	⑨	⑨	⑨

1. Your sex: Male . . 1 Female . . ○

2. Are you a veteran? (Mark one) No . . 1 Yes . . ○

3. How old will you be on December 31 of this year? (Mark one)

16 or younger	○	21	○
17	○	22	○
18	3	23-25	○
19	○	26-29	○
20	○	30 or older	○

4. In what year did you graduate from high school? (Mark one)

1975	1	Did not graduate but passed G.E.D. test	○
1974	○	Never completed high school	○
1973	○		
1972 or earlier	○		

(Note: Please check that your pencil markings are completely darkening the circles. Do not use pen or make √'s or X's. Thank You.)

5. Was your high school program: (Mark one)

College preparatory? 1
Other? (For ex., vocational) . . . . ○

6. What was your average grade in high school? (Mark one)

A or A+ ○ B+ ○ B- ○ C ○
A- ○ B 5 C+ ○ D ○

7. How well do you feel that your high school prepared you in the following areas:

(Mark one in each row)	Very Well	Fairly Well	Poorly
Mathematical skills	○	2	○
Reading and composition	○	2	○
Foreign languages	○	2	○
Science	○	2	○
History, social sciences	○	2	○
Vocational skills	○	2	○
Musical and artistic skills	○	2	○
Study habits	○	2	○

8. Are you enrolled (or enrolling) as a: (Mark one)

Full-time student? . . . 2
Part-time student? . . . ○

9. Prior to this term, have you ever taken courses for credit at this institution?

Yes . . . ○ No . . . 1

10. Since leaving high school, have you ever taken courses at any other institution?

ALL "1's"*

(Mark all that apply in each column)	For Credit	Not for Credit
No	○	○
Yes, at a junior or cmty. college	○	○
Yes, at a four-year college or university	○	○
Yes, at some other postsecondary school (For ex., technical, vocational, business)	○	○

11. How many miles is this college from your parents' home? (Mark one)

5 or less	○	51-100	○
6-10	○	101-500	○
11-50	3	More than 500	○

12. How much financial aid are you receiving from this college for this academic year? (Write in actual dollar amounts; write "0" if none)

Grants . . . . $ ______
Loans . . . . $ ______
Work-study . . . . $ ______

13. If you are receiving financial aid from this institution, what is your understanding as to the basis on which your aid was awarded? (Mark one in each row)

ALL "1's"

	Major Reason	Minor Reason	Not a Reason
Financial need	○	○	○
Academic talent	○	○	○
Athletic talent	○	○	○
Other special talent	○	○	○

14. Is this college your: (Mark one)

First choice? . . 3 Less than second choice? . . . . . ○
Second choice? ○

15. To how many colleges other than this one did you apply for admission this year? (Mark one)

No other 1 1 . . ○ 3 . . ○ 5 . . . . . ○
2 . . ○ 4 . . ○ 6 or more ○

Note: If you applied to no other colleges, skip to item 16 on the next page.

16. How many other acceptances did you receive this year? (Mark one)

None 1 1 . . ○ 3 . . ○ 5 . . . . ○
2 . . ○ 4 . . ○ 6 or more ○

*Each of eight answers scored as a dichotomy: positive response = 2. no response = 1.

17 a. What were the other colleges to which you applied for admission? (If you applied to more than three others, name the three that were most preferred):

b. Were you accepted for admission?

c. How much financial aid were you offered for the first year? (Write in actual dollar amounts; write "0" if none was offered)

	Name of Institution	City, State	Yes	No	Grants	Loans	Work-Study
1.			○	0	$	$	$
2.			○	0	$	$	$
3.			○	0	$	$	$

18. How much of your first year's educational expenses (room, board, tuition, and fees) do you expect to cover from each of the sources listed below?

(Mark one answer for each possible source)

	None	$1–$499	$500–$999	$1,000–$1,999	$2,000–$4,000	Over $4,000
Parental, or family aid, or gifts	0	○	○	○	○	○
Grants or Scholarships:						
Basic Educational Opportunity Grant	0	○	○	○	○	○
Supplemental Educational Opportunity Grant	0	○	○	○	○	○
College Work-Study grant	0	○	○	○	○	○
State scholarship or grant	0	○	○	○	○	○
Local or private scholarship or grant	0	○	○	○	○	○
Loans:						
Fed. guaranteed student loan	0	○	○	○	○	○
Nat'l direct student loan	0	○	○	○	○	○
Other loan	0	○	○	○	○	○
Full-time work	0	○	○	○	○	○
Part-time or summer work (other than above)	0	○	○	○	○	○
Savings	0	○	○	○	○	○
Spouse	0	○	○	○	○	○
Your G.I. benefits	0	○	○	○	○	○
Your parent's G.I. benefits	0	○	○	○	○	○
Social secur. dependent's benefits	0	○	○	○	○	○
Other	0	○	○	○	○	○

19. What was your total income last year independent of your parents? Consider annual income from all sources before taxes. (Mark one)

None	0	$2,000–$2,999	○
Less than $500	○	$3,000–$4,999	○
$500–$999	○	$5,000–$9,999	○
$1,000–$1,999	○	$10,000 or more	○

20. Are you financially independent of your parents this year? Were you financially independent last year?

	Yes	No		Yes	No
This year	○	0	Last year	○	0

21. Are you: (Mark one) Zero

Not presently married ○

Married, living with spouse ○

Married, not living with spouse ○

22. Have you taken any of the following tests? Zero

(Mark one for each)	Yes	No	Don't Remember
SAT	○	○	○
ACT	○	○	○
PSAT (11th grade)	○	○	○

23. Below are some reasons that might have influenced your decision to attend this particular college. How important was each reason in your decision to come here?

(Mark one answer for each possible reason)

ⓝ Not Important

ⓢ Somewhat Important

ⓥ Very Important

My relatives wanted me to come here	ⓥ	ⓢ	1
I wanted to live away from home	ⓥ	ⓢ	1
My teacher advised me	ⓥ	ⓢ	1
This college has a very good academic reputation	ⓥ	ⓢ	1
I was offered financial assistance	ⓥ	ⓢ	1
Someone who had been here before advised me to go	ⓥ	ⓢ	1
This college offers special educational programs	ⓥ	ⓢ	1
This college has low tuition	ⓥ	ⓢ	1
My guidance counselor advised me	ⓥ	ⓢ	1
I wanted to live at home	ⓥ	ⓢ	1
I could not get a job	ⓥ	ⓢ	1
A friend suggested attending	ⓥ	ⓢ	1
A college representative recruited me	ⓥ	ⓢ	1
It will help me get a better job	ⓥ	ⓢ	1

24. What is the highest academic degree that you intend to obtain? BOTH ZERO

(Mark one in each column)	Highest Planned	Highest Planned at this college
None	○	○
Associate (A.A. or equivalent)	○	○
Bachelor's degree (B.A., B.S., etc.)	○	○
Master's degree (M.A., M.S., etc.)	○	○
Ph.D. or Ed.D.	○	○
M.D., D.O., D.D.S., or D.V.M.	○	○
LL.B. or J.D. (Law)	○	○
B.D. or M.Div. (Divinity)	○	○
Other	○	○

25. Where do you plan to live during the fall term? If you had a choice, where would you have preferred to live? BOTH ZERO

(Mark one in each column)	Plan To Live	Prefer To Live
With parents or relatives	○	○
Other private home, apt. or rm.	○	○
College dormitory	○	○
Fraternity or sorority house	○	○
Other campus student housing	○	○
Other	○	○

26. Are you: (Mark all that apply)

White/Caucasian 0

Black/Negro/Afro-American 0

American Indian 0

Oriental 0

Mexican-American/Chicano 0

Puerto Rican-American 0

Other 0

27. Do you have any concern about your ability to finance your college education? (Mark one)

None (I am confident that I will have sufficient funds) 0

Some concern (but I will probably have enough funds) ○

Major concern (not sure I will have enough funds to complete college) ○

28. How would you characterize your political views? (Mark one)

Far left ○

Liberal ○

Middle-of-the-road 3

Conservative ○

Far right ○

29. What is your best estimate of your parents' total income last year? Consider annual income from all sources before taxes. (Mark one) Zero

Less than $3,000	○	$15,000–19,999	○
$3,000–3,999	○	$20,000–24,999	○
$4,000–5,999	○	$25,000–29,999	○
$6,000–7,999	○	$30,000–34,999	○
$8,000–9,999	○	$35,000–39,999	○
$10,000–12,499	○	$40,000–49,999	○
$12,500–14,999	○	$50,000 or more	○

30. What is the highest level of formal education obtained by your parents?

(Mark one in each column)	Father	Mother
Grammar school or less	○	○
Some high school	○	○
High school graduate	3	3
Postsecondary school other than college	○	○
Some college	○	○
College degree	○	○
Some graduate school	○	○
Graduate degree	○	○

31. What is:

Ⓜ **Your mother's current occupation?**
Ⓕ **Your father's current occupation?**
Ⓥ **Your probable future occupation?**

ALL ZEROS

(Mark one in each column. If your father or mother is deceased or retired, please indicate his or her last occupation.)

Accountant or auditor	Ⓥ Ⓕ Ⓜ
Architect or urban planner	Ⓥ Ⓕ Ⓜ
Artist (painting, sculpture, etc.)	Ⓥ Ⓕ Ⓜ
Business: banker or financier	Ⓥ Ⓕ Ⓜ
Business: buyer or purchasing agent	Ⓥ Ⓕ Ⓜ
Business: manager or administrator	Ⓥ Ⓕ Ⓜ
Business: owner or proprietor	Ⓥ Ⓕ Ⓜ
Business: public relations or advertising	Ⓥ Ⓕ Ⓜ
Business: sales worker	Ⓥ Ⓕ Ⓜ
Carpenter	Ⓥ Ⓕ Ⓜ
Clergy or religious worker	Ⓥ Ⓕ Ⓜ
Clerical worker: secretary, stenographer, typist, or bookkeeper	Ⓥ Ⓕ Ⓜ
Clerical worker: other	Ⓥ Ⓕ Ⓜ
Commercial artist, designer, decorator	Ⓥ Ⓕ Ⓜ
Computer programmer or analyst	Ⓥ Ⓕ Ⓜ
Construction craftsman, n.e.c.*	Ⓥ Ⓕ Ⓜ
Counselor: guidance, family or school	Ⓥ Ⓕ Ⓜ
Dentist (including orthodontist)	Ⓥ Ⓕ Ⓜ
Draftsman	Ⓥ Ⓕ Ⓜ
Driver: truck, taxi or bus	Ⓥ Ⓕ Ⓜ
Electrician	Ⓥ Ⓕ Ⓜ
Engineer	Ⓥ Ⓕ Ⓜ
Factory worker, n.e.c.*	Ⓥ Ⓕ Ⓜ
Farm or ranch laborer	Ⓥ Ⓕ Ⓜ
Farm or ranch owner or manager	Ⓥ Ⓕ Ⓜ
Foreman, n.e.c.*	Ⓥ Ⓕ Ⓜ
Forester, conservationist, fish or wildlife specialist	Ⓥ Ⓕ Ⓜ
Government official, administrator or politician	Ⓥ Ⓕ Ⓜ
Home economist or dietitian	Ⓥ Ⓕ Ⓜ
Homemaker (full-time)	Ⓥ Ⓕ Ⓜ
Lawyer or judge	Ⓥ Ⓕ Ⓜ
Librarian or archivist	Ⓥ Ⓕ Ⓜ
Laborer (unskilled or semi-skilled)	Ⓥ Ⓕ Ⓜ
Law enforcement officer	Ⓥ Ⓕ Ⓜ
Mathematician, statistician or actuary	Ⓥ Ⓕ Ⓜ
Mechanic, machinist or repairman	Ⓥ Ⓕ Ⓜ
Military (career)	Ⓥ Ⓕ Ⓜ
Nurse	Ⓥ Ⓕ Ⓜ
Optometrist	Ⓥ Ⓕ Ⓜ
Performing artist, musician or entertainer	Ⓥ Ⓕ Ⓜ
Pharmacist or pharmacologist	Ⓥ Ⓕ Ⓜ
Physician or surgeon	Ⓥ Ⓕ Ⓜ
Plumber	Ⓥ Ⓕ Ⓜ
Psychologist (clinician or therapist only)	Ⓥ Ⓕ Ⓜ
Scientific researcher	Ⓥ Ⓕ Ⓜ
Service worker: private household (maid, cook, etc.)	Ⓥ Ⓕ Ⓜ
Service worker: protective (other than law enforcement)	Ⓥ Ⓕ Ⓜ
Service worker: other	Ⓥ Ⓕ Ⓜ
Skilled tradesman, n.e.c.*	Ⓥ Ⓕ Ⓜ

*Not elsewhere classified

Continued in the next column

Social, welfare or recreation worker	Ⓥ Ⓕ Ⓜ
Teacher, professor or administrator: college, university	Ⓥ Ⓕ Ⓜ
Teacher or administrator: secondary	Ⓥ Ⓕ Ⓜ
Teacher or administrator: elementary	Ⓥ Ⓕ Ⓜ
Teacher or education specialist: other than above	Ⓥ Ⓕ Ⓜ
Technician or technologist (health)	Ⓥ Ⓕ Ⓜ
Technician or technologist (other)	Ⓥ Ⓕ Ⓜ
Therapist (physical, occupational, speech)	Ⓥ Ⓕ Ⓜ
Veterinarian	Ⓥ Ⓕ Ⓜ
Writer, journalist, interpreter	Ⓥ Ⓕ Ⓜ
Other occupation, n.e.c.*	Ⓥ Ⓕ Ⓜ
Unemployed	Ⓕ Ⓜ
Undecided	Ⓥ

*Not elsewhere classified

MAKE SURE YOU HAVE ANSWERED ITEM 32

32. Current religious preference: ALL ZEROS

(Mark one in each column)

	Yours	Father's	Mother's
Baptist	Ⓥ	Ⓕ	Ⓜ
Congregational (U.C.C.)	Ⓥ	Ⓕ	Ⓜ
Eastern Orthodox	Ⓥ	Ⓕ	Ⓜ
Episcopal	Ⓥ	Ⓕ	Ⓜ
Jewish	Ⓥ	Ⓕ	Ⓜ
Latter Day Saints (Mormon)	Ⓥ	Ⓕ	Ⓜ
Lutheran	Ⓥ	Ⓕ	Ⓜ
Methodist	Ⓥ	Ⓕ	Ⓜ
Muslim	Ⓥ	Ⓕ	Ⓜ
Presbyterian	Ⓥ	Ⓕ	Ⓜ
Quaker (Society of Friends)	Ⓥ	Ⓕ	Ⓜ
Roman Catholic	Ⓥ	Ⓕ	Ⓜ
Seventh Day Adventist	Ⓥ	Ⓕ	Ⓜ
Unitarian-Universalist	Ⓥ	Ⓕ	Ⓜ
Other Protestant	Ⓥ	Ⓕ	Ⓜ
Other Religion	Ⓥ	Ⓕ	Ⓜ
None	Ⓥ	Ⓕ	Ⓜ

33. Mark one in each row:

① Disagree Strongly
② Disagree Somewhat
③ Agree Somewhat
④ Agree Strongly

The Federal government is not doing enough to control environmental pollution	④ ❸ ② ①
The Federal government is not doing enough to protect the consumer from faulty goods and services	④ ❸ ② ①
State and Fed. governments should provide more money for private colleges and universities	④ ❸ ② ①
The Federal government should help college students with more grants instead of loans	④ ❸ ② ①
There is too much concern in the courts for the rights of criminals	④ ❸ ② ①
People should not obey laws which violate their personal values	④ ③ ❷ ①
As long as they work hard, people should be paid equally regardless of ability or quality of work	④ ③ ❷ ①
The activities of married women are best confined to the home and family	④ ③ ❷ ①
A couple should live together for some time before deciding to get married	④ ③ ❷ ①
Parents should be discouraged from having large families	④ ❸ ② ①
If two people really like each other, it's all right for them to have sex even if they've known each other for only a very short time	④ ❸ ② ①
Women should receive the same salary and opportunities for advancement as men in comparable positions	④ ❸ ② ①
Wealthy people should pay a larger share of taxes than they do now	④ ③ ❷ ①
Marijuana should be legalized	④ ❸ ② ①
Large political campaign contributions from wealthy individuals should be outlawed	④ ❸ ② ①
Realistically, an individual can do little to bring about changes in our society	④ ③ ❷ ①
Compared to most older people in their forties and fifties, young people these days are more idealistic	④ ❸ ② ①
Young people these days understand more about sex than most older people	④ ❸ ② ①
College officials have the right to regulate student behavior off campus	④ ③ ❷ ①
Faculty promotions should be based in part on student evaluations	④ ❸ ② ①
College grades should be abolished	④ ③ ❷ ①
Colleges would be improved if organized sports were de-emphasized	④ ③ ❷ ①
Student publications should be cleared by college officials	④ ③ ❷ ①
College officials have the right to ban persons with extreme views from speaking on campus	④ ③ ❷ ①
Students from disadvantaged social backgrounds should be given preferential treatment in college admissions	④ ③ ❷ ①
Open admissions (admitting anyone who applies) should be adopted by all publicly supported colleges	④ ③ ❷ ①
Even if it employs open admissions, a college should use the same performance standards in awarding degrees to all students	④ ❸ ② ①
The federal government should do more to discourage energy consumption	④ ❸ ② ①
Students have the right to demonstrate to prohibit speakers from coming to campus	④ ❸ ② ①

47D

34. Below is a list of different undergraduate major fields grouped into general categories. Mark only one circle to indicate your probable field of study.

ARTS AND HUMANITIES
- Art, fine and applied ○
- English (language and literature) ○
- History ○
- Journalism ○
- Language and Literature (except English) ○
- Music ○
- Philosophy ○
- Speech and Drama ○
- Theology or Religion ○
- Other Arts and Humanities ○

BIOLOGICAL SCIENCE
- Biology (general) ○
- Biochemistry or Biophysics ○
- Botany ○
- Marine (Life) Science ○
- Microbiology or Bacteriology ○
- Zoology ○
- Other Biological Science ○

BUSINESS
- Accounting ○
- Business Admin. (general) ○
- Finance ○
- Marketing ○
- Management ○
- Secretarial Studies ○
- Other Business ○

EDUCATION
- Business Education ○
- Elementary Education ○
- Music or Art Education ○
- Physical Education or Recreation ○
- Secondary Education ○
- Special Education ○
- Other Education ○

ENGINEERING
- Aeronautical or Astronautical Eng. ○
- Civil Engineering ○
- Chemical Engineering ○
- Electrical or Electronic Engineering ○
- Industrial Engineering ○
- Mechanical Engineering ○
- Other Engineering ○

PHYSICAL SCIENCE
- Astronomy ○
- Atmospheric Science (incl. Meteorology) ○
- Chemistry ○
- Earth Science ○
- Marine Science (incl. Oceanography) ○
- Mathematics ○
- Physics ○
- Statistics ○
- Other Physical Science ○

PROFESSIONAL
- Architecture or Urban Planning ○
- Home Economics ○
- Health Technology (medical, dental, laboratory) ○
- Library or Archival Science ○
- Nursing ○
- Pharmacy ○
- Therapy (occupational, physical, speech) ○
- Other Professional ○

SOCIAL SCIENCE
- Anthropology ○
- Economics ○
- Geography ○
- Political Science (govt., international relations) ○
- Psychology ○
- Social Work ○
- Sociology ○
- Other Social Science ○

TECHNICAL
- Building Trades ○
- Data Processing or Computer Programming ○
- Drafting or Design ○
- Electronics ○
- Mechanics ○
- Other Technical ○

OTHER FIELDS
- Agriculture ○
- Communications (radio, T.V., etc.) ○
- Computer Science ○
- Forestry ○
- Law Enforcement ○
- Military Science ○
- Other Field ○
- Undecided ○

35. Indicate the importance to you personally of each of the following: (Mark one for each item)

Ⓝ Not Important
Ⓢ Somewhat Important
Ⓥ Very Important
Ⓔ Essential

Becoming accomplished in one of the performing arts (acting, dancing, etc.)	Ⓔ	Ⓥ	Ⓢ	1
Becoming an authority in my field	Ⓔ	3	Ⓢ	Ⓝ
Obtaining recognition from my colleagues for contributions to my special field	Ⓔ	Ⓥ	2	Ⓝ
Influencing the political structure	Ⓔ	Ⓥ	2	Ⓝ
Influencing social values	Ⓔ	Ⓥ	2	Ⓝ
Raising a family	Ⓔ	3	Ⓢ	Ⓝ
Having administrative responsibility for the work of others	Ⓔ	Ⓥ	2	Ⓝ
Being very well off financially	Ⓔ	Ⓥ	2	Ⓝ
Helping others who are in difficulty	Ⓔ	3	Ⓢ	Ⓝ
Making a theoretical contribution to science	Ⓔ	Ⓥ	Ⓢ	1
Writing original works (poems, novels, short stories, etc.)	Ⓔ	Ⓥ	Ⓢ	1
Creating artistic work (painting, sculpture, decorating, etc.)	Ⓔ	Ⓥ	Ⓢ	1
Being successful in a business of my own	Ⓔ	Ⓥ	2	Ⓝ
Becoming involved in programs to clean up the environment	Ⓔ	Ⓥ	2	Ⓝ
Developing a meaningful philosophy of life	Ⓔ	3	Ⓢ	Ⓝ
Participating in a community action program	Ⓔ	Ⓥ	2	Ⓝ
Keeping up to date with political affairs	Ⓔ	Ⓥ	2	Ⓝ

36. What is your best guess as to the chances that you will:

(Mark one for each item)

Ⓝ No Chance
Ⓛ Very Little Chance
Ⓢ Some Chance
Ⓥ Very Good Chance

Change major field?	Ⓥ	3	Ⓛ	Ⓝ
Change career choice?	Ⓥ	3	Ⓛ	Ⓝ
Fail one or more courses?	Ⓥ	Ⓢ	2	Ⓝ
Graduate with honors?	Ⓥ	3	Ⓛ	Ⓝ
Be elected to a student office?	Ⓥ	Ⓢ	2	Ⓝ
Join a social fraternity, sorority, or club?	Ⓥ	3	Ⓛ	Ⓝ
Live in a coeducational dorm?	Ⓥ	3	Ⓛ	Ⓝ
Live in a commune while in college?	Ⓥ	Ⓢ	2	Ⓝ
Be elected to an academic honor society?	Ⓥ	Ⓢ	2	Ⓝ
Make at least a "B" average?	Ⓥ	3	Ⓛ	Ⓝ
Need extra time to complete your degree requirements?	Ⓥ	Ⓢ	2	Ⓝ
Need tutoring in some courses	Ⓥ	Ⓢ	2	Ⓝ
Have to work at an outside job during college?	Ⓥ	3	Ⓛ	Ⓝ
Seek vocational counseling?	Ⓥ	Ⓢ	2	Ⓝ
Seek individual counseling on personal problems?	Ⓥ	Ⓢ	2	Ⓝ
Get a bachelor's degree (B.A., B.S., etc.)?	4	Ⓢ	Ⓛ	Ⓝ
Drop out of this college temporarily (exclude transferring)?	Ⓥ	Ⓢ	2	Ⓝ
Drop out permanently (exclude transferring)?	Ⓥ	Ⓢ	2	Ⓝ
Transfer to another college before graduating?	Ⓥ	3	Ⓛ	Ⓝ
Be satisfied with your college?	4	Ⓢ	Ⓛ	Ⓝ
Find a job after graduation in the field for which you were trained?	4	Ⓢ	Ⓛ	Ⓝ
Get married while in college? (skip if married)	Ⓥ	○	2	Ⓝ
Get married within a year after college? (skip if married)	Ⓥ	Ⓢ	2	Ⓝ

The Laboratory for Research on Higher Education at UCLA actively encourages the colleges that participate in this survey to conduct local studies of their student bodies. If these studies involve collecting follow-up data, it is necessary for the institution to know the students' ID numbers so that follow-up data can be linked with the data from this survey. If your college asks for a tape copy of the data and signs an agreement to use it only for research purposes, do we have your permission to include your ID number in such a tape? Yes ○ No ○

ALL ZEROS

37. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
38. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
39. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
40. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
41. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

The remaining circles are provided for items specifically designed by your college rather than by the Laboratory for Research on Higher Education. If your college has chosen to use the circles, observe carefully the supplemental directions given you.

THANK YOU!

42. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
43. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
44. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
45. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
46. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

Prepared by the Laboratory for Research on Higher Education, University of California, Los Angeles, California 90024 Processed by Intran Corporation, 4555 West 77th Street, Minneapolis, Minnesota 55435

NOTES

Note 1

The number of college IDs in CIRP record is the count of identifiable colleges in the student's CIRP record (cols. 1-4, 295-298, 312-315, and 329-332) giving a maximum of four. Following this variable are the institutiona data for each of the college codes. Where there is not a college code, the institutional data field for that college is blank. There may be instances in which there is no institutional data for a college. If this is the case, the record area for that college's data will be blank but this variable will not reflect the missing data, i.e., it will specify the total number of college codes listed on the CIRP record and not the total number of institutional data fields with data.

Note 2

The institutional data for a particular college code is 62 columns long and is prosent for all valid college choice codes. The four groups of 62 (cols. 408-655) are the institutional data for the four CIRP college codes, the six groups of 62 (cols. 684-1055) are the institutional data for the six college codes in the 12th grade test (SAT or ACT), the main source of these data is the 1972-73 (fiscal year '73) Higher Educational General Information Survey (HEGIS).

Note 3

This variable categorized the institution by race (col. 426), control (col. 427), type (col. 428), and selectivity (cols. 432-434). For further information refer to the value list for this variable. (page 32).

Note 4

An interaction variable which relates total enrollment with institutional selectivity, yielding a 1-9 value of prestige.* For further information refer to the value list for this variable (page 32).

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*See A.W. Astin and C.B.T. Lee, The Invisible Colleges, (McGraw-Hill, 1971), Chapter 1.

Note 5 Selectivity is an estimate of the average academic ability of the entering class expressed as a SAT Verbal + Math score. The range is thus 400-1600. These estimates are based on data provided in several college guides ** and on data reported previously in Astin, A. W., *Predicting Academic Performance in College*; New York: The Free Press, 1971. Most estimates were originally in the form of mean SAT Verbal (V) plus Mathematical (M) scores of entering freshmen. Mean ACT composite scores were converted into comparable mean SAT V+M scores (see Table 3-1 in above reference of Astin, 1971). These selectivity measures are more current, more accurate (i.e., most were provided directly by the institutions), and involve less missing data (i.e., fewer with unknown selectivity). For details of the revised measures, see A.W. Astin and J.W. Henson, "New Measures of College Selectivity," *Research in Higher Education*, 1977, *6*, 1-9.

**See A.W. Astin, *Predicting Academic Performance in College*, (New York: Free Press, 1971).

J. Cass and M. Birnbaum, *Comparative Guide to American Colleges*, (New York: Harper & Row, 1973).

College Division of Varron's Educational Series. *Barron's Profiles of American Colleges*, (Woodbury: Barron's Educational Series, 1974).

W.T. Furniss (ed.), *American Universities and Colleges*, (Washington: American Council on Education, 1972).

Note 6

This variable is the recoding of the institutional selectivity (from the preceeding 3 columns) into a nine category variable.

Note 7

This variable is the total institutional enrollment from the 72-73 HEGIS coded to a nine category variable.

Note 8

This variable is the percentage of the total institutional enrollment who are women (from the 72-73 HEGIS) coded to a nine category variable.

Note 9

This variable is the percentage of the total institutional enrollment who are graduate students (from the 72-73 HEGIS) coded into a nine category variable.

Note 10

Education and general expenditures (from the 72-73 HEGIS) were divided by the sum of undergraduate enrollment plus three times the graduate enrollment to yield a per student expenditure. (Graduate student enrollment was inflated by a factor of three to reflect the larger expenditures in this area). This expenditure was recoded to yield an eight category variable.

Note 11

Library expenditures (from the 72-73 HEGIS) were divided by the sum of undergraduate enrollment plus three times graduate enrollment to yield a per student expenditure. (Graduate student enrollment was inflated by a factor of three to reflect the larger expenditures in this area). This expenditure was recoded to yield a nine category variable.

Note 12

Value of land, buildings, and equipment (from the 72-73 HEGIS) was divided by the sum of undergraduate enrollment plus three times graduate enrollment to yield a per student expenditure. (Graduate student enrollment was inflated by a factor of three to reflect the larger expenditures in this area). This expenditure was recoded to yield a nine category variable.

Note 13

The sum of undergraduate enrollment plus three times graduate enrollment was divided by the number of faculty.
The value was then recoded to a nine category variable.

Note 14

Tuition and fees (from the 72-73 HEGIS) rounded to three digits (example: $1356 = 136).

Note 15

A collapsing of tuition and fees into nine categories.

Note 16

Earned degrees data from all relevant fields were summed and then divided by total BA degrees granted in 1972-73. For further information refer to the value list for these variables. (page 35)

Note 17

This code reflects the institutional affiliation (public or private and, if private, religious affiliation). The source is the 1972-73 HEGIS ("Affiliation of institution and states as public and private").

Note 18

The distance is calculated from home to college zip code by converting each zip code into coordinates of latitude and longitude. Given these coordinates, it is possible to calculate the distance between two points on a sphere which may be converted to miles. If the distance to a college is computed as zero, the value "1" is assigned as "0" is used to indicate missing data. The method of converting zipcodes to latitude/longitude coordinates was accomplished using a tape provided by the National Technical Information Services.

Note 19 *

This variable is the mean selectivity of the instituional choice set from the PSAT record rounded to two digits.

Note 20 *

This variable, the mean coded enrollment of the institutional choice set from the PSAT record.

Note 21*

This variable is the mean tuition and fees of the institutional choice set from the PSAT record rounded to two digits. (tens of dollars).

Note 22 *

This variable is the mean distance in miles from home to those colleges in the institutional choice set from the PSAT record.

No Note 23

*If the student gave only one choice, the "mean" equals the data for the first choice.

Note 24

Values from SAT were recoded as follows:
1=sophomore → 4=other
2=junior → 1=junior
3=senior → 2=senior
4=1st yr. college → 3=college student
5=2nd yr. college → 3=college student
6=other → 4=other

Values from ACT were recoded as follows:
1=junior → 1=junior
3=senior → 2=senior
5=high school graduate → 4=other
7=college student → 3=college student
9=other → 4=other

No note 25

Note 26

The number of college IDs in the 12th grade record is the count of college IDs the student provided. Following this variable are the institutional data for each of these college codes. There is a maximum of six possible college codes. When there is not a college code, the institutional data field for that college is blank. There may be instances in which there is no institutional data for a college. If this is the case, the data area for that college will be blank, but this variable will not reflect the missing data (i.e., it will specify the total number of college codes listed on the 12th grade record rather than the number of institutional data fields with data).

Note 26A

The institutional data for a particular college code is 62 columns long and is present for all valid college choice codes. The two groups of 62 (cols. 1127-1350) are the institutional data for the two PSAT institutions, while the six groups of 62 (cols. 684-1055) are the six college codes in the 12th grade data (SAT or ACT). The main source of the institutional data is the 1972-73 (fiscal year '73) Higher Educational General Information Survey (HEGIS).

Note 27

This variable, the mean coded enrollment of the institutional choice set from the 12th grade record, has one decimal place.

Note 28

This variable, the mean coded enrollment of the institutional choice set from the 12th grade record, has one decimal place.

Note 29

This variable is the mean tuition and fees of the institutional choice set from the 12th grade record rounded to 2 digits (tens of dollars).

Note 30

This variable is the mean distance in miles from home to the colleges in the institutional choice set from the 12th grade record.

Note 31

If the source of the 12th grade record is ACT, the data are from the 1974-75 ACT Student Record File.
If the source of the 12th grade record is SAT, and there was only one administration, the data are from that administration. In the case of multiple SAT administrations, a priority of test dates was established in an attempt to utilize data from the early part of the senior year.
The following test dates are listed from most desired (1) to least desired (15) for selection. Fro multiple administrations the most recent test data was selected.

1) 12/74
2) 11/74
3) 10/74
4) 2/75
5) 4/75
6) 6/75
7) 6/74
8) 4/74
9) 2/74
10) 12/73
11) 11/73
12) 10/73
13) 6/73
14) 4/73
15) 2/73

The field is blank, but this note has been retained for your information.

Note 32

SAT verbal score (range 200-800) where available, otherwise ACT equivalent. The ACT equivalent was obtained by summing three ACT subtests (English, natural sciences, social sciences) and converting to SAT equivalent by equipercentile method (N=14865). The sum of the three (range 3-108) ACT subtests was used (rather than simply the ACT English subtest) because it resulted in a better correlation with the SAT verbal score (r=.82 vs. .69). If a record had one or more of the ACT subtests missing, the entire record was dropped from the file. Conversion table shown below.

ACT Sum Eng & Nat Sci & Soc Sci	SAT Verbal Equivalent
108	800
107	800
106	800
105	800
104	800
103	800
102	800
101	790
100	770
99	760
98	750
97	740
96	730
95	720
94	710
93	700
92	690
91	680
90	670
89	660
88	640
87	630
86	620
85	610
84	600
83	590
82	580
81	570
80	560
79	550
78	540
77	540
76	530
75	520
74	510
73	510
72	500
71	490
70	480
69	480
68	470
67	460
66	460
65	450
64	440
63	440
62	440
61	430
60	430
59	420
58	420
57	410
56	410
55	400
54	400
53	390
52	390
51	380
50	380
49	370
48	370
47	360
46	360
45	350
44	350
43	340
42	340
41	330
39	320
38	310
37	310
36	310
35	300
34	300
33	290
32	280
31	280
30	270

Note 32 (continued)

ACT Sum Eng & Nat Sci & Soc Sci	SAT Verbal Equivalent
29	260
28	260
27	250
26	250
25	240
24	230
23	230
22	220
21	220
20	210
19	210
18	210
17	210
16	200
15	200
14	200
13	200
12	200
11	200
1-10	200

Note 33

SAT math score (range 200-800) where available, otherwise ACT equivalent obtained by an equipercentile conversion of the ACT Mathematical subtest score (range 1-36) to SAT. Correlation between SAT-M and converted ACT-M is .85 (N = 14,000). Conversion table shown below.

ACT Math Score	SAT Math Equiv.	ACT Math Score	SAT Math Equiv.
36	780	18	440
35	750	17	430
34	730	16	410
33	710	15	390
32	700	14	380
31	680	13	370
30	660	12	360
29	640	11	350
28	610	10	340
27	590	9	330
26	560	8	330
25	530	7	320
24	510	6	300
23	500	5	290
22	480	4	280
21	470	3	270
20	460	2	260
19	450	1	240

Note 34

The SAT questionnaire did not contain an overall high school GPA item, instead it asked the student to report the most recent grades in six areas. A GPA was calculated by assigning percentage scores to each grade category as follows: A=95, B=85, C=75, D=65, F=55. The scores were then summed weighting English by 3, Math by 2, and all others by 1. The sum was divided by the number of grades reported, resulting in a mean calculated GPA in percentage from.

The ACT high school GPA was converted to SAT percentage equivalents by equipercentile method (N=14000). Questionnaire items and recoded values are shown below.

SAT

In answering questions 6 through 11, please indicate the latest year-end or semester-end marks that you received in each subject taken since you began the ninth grade.

After blackening the letter corresponding to your mark in a subject, blacken the letter H if the mark was received in an honors, advanced, or accelerated course.

(A) Excellent (usually 90-100)
(B) Good (usually 80-89)
(C) Fair (usually 70-79)
(D) Passing (usually 60-69)
(F) Failing (usually 59 or below)
(G) Only "pass-fail" marks were assigned and I received a pass.
(H) The mark reported was in an honors, advanced, or accelerated course.

6. English

7. Mathematics

8. Foreign Languages

9. Biological Sciences

10. Physical Sciences

11. Social Studies

ACT

82. My overall high school average is (was)
D- to D (0.5-0.9) 1
D to C- (1.0-1.4) 2
C- to C (1.5-1.9) 3
C to B- (2.0-2.4) 4
B- to B (2.5-2.9) 5
B to B+ (3.0-3.4) 6
A- to A (3.5-4.0) 7

SAT calculated percentage described above

ACT converted to SAT calculated percentage as follows:

ACT Code ⟶	SAT Conversion
7	93
6	87
5	83
4	78
3	74
2	71
1	68

Correlation between SAT GPA and converted ACT GPA is .77 (N=14,000).

Note 35 SAT income categories were collapsed to match ACT categories as follows:

SAT

28. What is the approximate income of your parents before taxes? Include taxable and nontaxable income from all sources.
    - (A) Less than $3,000 a year (about $60 a week or less)
    - (B) Between $3,000 and $5,999 a year (from $60 to $119 a week)
    - (C) Between $6,000 and $7,499 a year (from $120 to $149 a week)
    - (D) Between $7,500 and $8,999 a year (from $150 to $179 a week)
    - (E) Between $9,000 and $10,499 a year (from $180 to $209 a week)
    - (F) Between $10,500 and $11,999 a year (from $210 to $239 a week)
    - (G) Between $12,000 and $13,499 a year (from $240 to $269 a week)
    - (H) Between $13,500 and $14,999 a year (from $270 to $299 a week)
    - (I) Between $15,000 and $16,499 a year (from $300 to $329 a week)
    - (J) Between $16,500 and $17,999 a year (from $330 to $359 a week)
    - (K) Between $18,000 and $19,999 a year (from $360 to $399 a week)
    - (L) Between $20,000 and $21,999 a year (from $400 to $439 a week)
    - (M) Between $22,000 and $23,999 a year (from $440 to $479 a week)
    - (N) Between $24,000 and $25,999 a year (from $480 to $519 a week)
    - (O) Between $26,000 and $27,999 a year (from $520 to $559 a week)
    - (P) Between $28,000 and $30,000 a year (from $560 to $600 a week)
    - (Q) More than $30,000 a year ($600 or more a week)

SAT Value	ACT Value	RECODE Value
A	0	1=less than $3,000
B	1	2=$3,000 - 5,999
C	2	3=$6,000 - 7,499
D	3	4=$7,500 - 8,999
E, F	4	5=$9,000 - 11,999
G, H	5	6=$12,000 - 14,999
I, J, K	6	7=$15,000 - 19,999
L, M, N O, P, Q	7	8=$20,000 or more
-	8	0=missing data

ACT

59. To plan financial aid programs for entering students, colleges need to know the financial background of their students. Please estimate as accurately as possible your family's income. (Indicate total income before taxes.)

Less than $3,000	0
$3,000 to $5,999	1
$6,000 to $7,499	2
$7,500 to $8,999	3
$9,000 to $11,999	4
$12,000 to $14,999	5
$15,000 to $19,999	6
$20,000 and over	7
I consider this information confidential	8

Note 36 SAT and ACT racial background items had the same categories but in different order.

SAT

The College Board wants to be sure that its tests and services are fair and useful to all candidates. If you answer questions 24 and 25, it will help the College Board evaluate and improve its tests and services. Your responses will also be reported to your school and to those colleges that can and will accept such information in order to be sure that their programs are fair and useful to students of all racial and ethnic backgrounds.

24. How do you describe yourself?

(A) American Indian
(B) Black or Afro-American or Negro
(C) Mexican-American or Chicano
(D) Oriental or Asian-American
(E) Puerto Rican
(F) White or Caucasian
(G) Other

ACT

65. Colleges often provide special educational programs and opportunities for students from particular racial or ethnic backgrounds. ACT releases this information only to those institutions that request it. If your background is listed below and you wish to identify yourself, please respond to this item. You are not required to provide this information.

Afro-American Black. 1
American Indian Native American
Aleutian (Eskimo). 2
Caucasian American White. 3
Mexican American or Chicano. 4
Oriental American. 5
Puerto-Rican or Spanish-speaking
American. 6
Other. 7
I prefer not to respond. 8

SAT Value	ACT Value	RECODE Value
F	3	1 = White
B	1	2 = Black
A	2	3 = American Indian
D	5	4 = Oriental
C	4	5 = Mexican American
E	6	6 = Puerto Rican-American
G	7	7 = other
	8	0 = missing data

Note 37 The SAT and ACT English language items were phrased somewhat differently, but had similar response categories.

SAT

25. Is English your best language?

(Y) Yes (N) No

ACT

64. Is English the language most frequently spoken in your home?

yes. . . . . y 2
no. . . . . n 1
I prefer not to respond. 0 0

SAT	ACT	RECODE
Y	Y	1 = no
N	N	2 = yes
	0	0 = missing data

Note 38 The ACT number of dependents item had more response categories than the SAT item. Collapsing the top ACT categories resulted in the following recode.

SAT

26. How many of your brothers or sisters are dependent on your parents or legal guardian for financial support?

(A) None (B) One (C) Two (D) Three

(E) Four (F) Five (G) Six or more

ACT

61. How many brothers and sisters under 21 years of age do you have?

None	0
One	1
Two	2
Three	3
Four	4
Five	5
Six	6
Seven	7
Eight	8
Nine or more	9

SAT	ACT	RECODE
A	0	1 = none
B	1	2 = one
C	2	3 = two
D	3	4 = three
E	4	5 = four
F	5	6 = five
G	6, 7, 8, 9	7 = six or more

Note 39 The SAT residence item included separate response categories for single-sex and coed dorms which were collapsed to accommodate the ACT dorm category.

SAT

30. Where do you prefer to live during your first two years in college?
(A) At home
(B) Single-sex dorm
(C) Coed dorm
(D) Fraternity or sorority house
(E) On-campus apartment
(F) Off-campus apartment

ACT

4. Upon entering college, I plan to live in

residence hall	1
off-campus room or apartment. . .	2
parent's or relatives home. . . .	3
married student housing.	4
fraternity or sorority.	5

SAT Value	ACT Value	RECODE Value
A	3	1 = parents' home
B, C	1	2 = residence hall
D	5	3 = fraternity or sorority
E	4	4 = other campus housing
F	2	5 = off-campus apartment

Note 40 The ACT item listed many types of private high schools which were collapsed into one category to correspond to the SAT "private" category.

SAT	ACT
2. What kind of high school are you attending? (A) Public (B) Private	78. The high school from which I will (did) graduate can be best described as a public high school. . . . . .1 Catholic high school. . . . . .2 private independent school. . . . .3 private denominational school . . .4 military school. . . . . 5 other. 6

SAT Value	ACT VAlue	RECODE Value
A	1	1 = public
B	2, 3, 4, 5, 6	2 = private or other

Note 41 The SAT and ACT items on type of high school program were similar, resulting in a simple recode.

SAT

3. Which of the following best describes your present high school program?

(A) Academic or college preparatory

(B) General

(C) Career-oriented (business, vocational, industrial arts)

(D) Other

ACT

83. I would describe my high school curriculum or program as

business or commercial 1
vocational-occupational 2
college preparatory 3
other or general 4

SAT Value	ACT Value	RECODE Value
A	3	1 = college preparatory
C	1, 2	2 = business or vocational
B, D	4	3 = general or other

Note 42 Response categories for the SAT and ACT items on high school class size were so different that the recoded common item could retain only two categories.

SAT

4. About how many students are there in your high school class?

(A) Fewer than 100 (B) 100-249 (C) 250-499

(D) 500-749 (E) 750 or more

ACT

79. The number of students in my high school graduating class is (was)

fewer than 25. 1
25-99. 2
100-199. 3
200-399. 4
400-599. 5
600-899. 6
900 or more. 7

SAT Value	ACT Value	RECODE Value
A	1, 2	1 = fewer than 100
B, C, D, E	3, 4, 5, 6, 7	2 = 100 or more

Note 43 From the SAT and ACT items which appear below, eight dummy (1=no 2=yes) variables were created for the high school and college extracurricular activities. Because the ACT list of activities was longer than the SAT list, the items were collapsed as follows:

SAT

Questions 32 and 33 concern your interests in extracurricular activities in high school and your plans to participate in college.

32. Blacken the letter for each activity in which you participated while in high school.

(A) Athletics – interscholastic, intramural, or community
(B) Ethnic or racial activities or organizations
(C) Journalism, debating, or dramatic activities
(D) Music – band, chorus, or orchestra
(E) Preprofessional or departmental clubs – for example, Future Teachers of America, American Society of Civil Engineers
(F) Religious activities or organizations
(G) Social clubs and community organizations
(H) Student government

33. Blacken the letter for each activity, using the listing in question 32, to indicate activities in which you plan to participate while in college.

ACT

[illegible] EXTRACURRICULAR ACTIVITIES

Items 99-114 list student extracurricular activities. Please answer Y or N to *each* item on the list.

Yes, I participated in this activity .... Y
No, I did not participate in this activity...................... N

99. Instrumental music (band, orchestra)
100. Vocal music
101. Student government
102. Publications (newspaper, yearbook, literary magazine)
103. Debate
104. Departmental clubs (science club, math club, etc.)
105. Dramatics, theater
106. Religious organizations
107. Racial or ethnic organizations
108. Intramural athletics
109. Varsity athletics
110. Political organizations
111. Radio-TV
112. Fraternity, sorority, or other social clubs
113. Special interest groups (ski club, sailing club, judo club, card section, drill teams, etc.)
114. School or community service organizations

SAT	ACT	Dummy Variable
A	108, 109	athletics
B	107	ethnic or racial
C	102, 103, 105	journalism, debate, drama
D	99, 100	music
E	104	departmental or pre-professional
F	106	religious
G	112, 113, 114	social clubs and community organizations
H	101	student government

Note 44 From the SAT and ACT items which appear below, five variables (range 1-5) were created for years of study in each of five subject areas. Due to slight differences in the two items, the subject areas and the years of study response categories were recoded as shown below:

SAT

Questions 12 through 17 ask you to blacken the letter corresponding to the total years of study you expect to complete in certain subjects. Include in the total only the courses you have taken since beginning the ninth grade and those you expect to complete before graduation from high school. If you have completed less than a full year in a subject, answer as if you have completed a full year. Do not count a repeated year of the same course as an additional year of study.

(A) I did not take any courses in the subject.
(B) One year or the equivalent
(C) Two years or the equivalent
(D) Three years or the equivalent
(E) Four years or the equivalent
(F) More than four years or the equivalent

12. English

13. Mathematics

14. Foreign Languages

15. Biological Sciences

16. Physical Sciences

17. Social Studies

ACT

Years Certain Subjects Studied
(Grades 9-12)

Items 84-93 concern the number of years you will have studied certain subjects by the time you graduate (or have studied, if you have graduated) from high school. Use the responses below to answer *all* the items in this group.

Half-year	1
One year	2
One and a half years	3
Two years	4
Two and a half years	5
Three years	6
Three and a half years	7
Four years or more	8
I did not take any courses in the subject	9

84. English
85. Mathematics
86. Social studies (history, civics, geography, economics)
87. Natural sciences (biology, chemistry, physics)
88. Foreign language (Spanish)
89. Foreign language (German)
90. Foreign language (French)
91. Foreign language (other)
92. Business or commercial
93. Vocational-occupational

SAT Item	ACT Item	Created Variable	Years of Study SAT	Years of Study ACT	RECODE
12	84	English	A	9	1 = none
13	85	Mathematics	B	1, 2	2 = one year or less
14	88, 89, 90, 91	Foreign language	C	3, 4	3 = up to two years
			D	5, 6	4 = up to three year
15, 16	87	Natural sciences	E, F,	7, 8	5 = more than three year

Note 45 SAT and ACT degree aspiration items were so similar that a simple conversion to a new numbering scheme was all that was required.

SAT

23. What is the highest level of education you plan to complete beyond high school?
    - (A) A two-year specialized training program (for example, electronics, laboratory technician)
    - (B) A two-year liberal arts degree (Associate of Arts)
    - (C) Bachelor's degree (B.A. or B.S.)
    - (D) Master's degree (M.A. or M.S.)
    - (E) Doctor's degree or other professional degree (such as Ph.D. or M.D.)
    - (F) Other or undecided

ACT

16. What is the highest level of education you expect to complete?
    - Vocational or technical program (less than 2 years) 1
    - Two-year college degree 2
    - Bachelor's degree 3
    - One or 2 years of graduate study (MA, MBA, etc.) 4
    - Professional level degree (PhD, MD, LLB, or JD, etc.) 5
    - Other 6

SAT Value	ACT Value	RECODE Value
A	1	1 = Vocational Program
B	2	2 = Associate (two-year)
C	3	3 = Bachelor
D	4	4 = Master
E	5	5 = Doctoral or Professional
F	6	6 = Other or undecided

Note 46 The SAT remedial help item included a response category for part-time work placement which was not included in the ACT item and had to be dropped. This resulted in the scheme shown below which created six dummy variables (1=no, 2=yes).

SAT

31. You may want to receive help outside regular course work from the college you plan to attend. If so, blacken the letter for each area in which you need help.

(A) Counseling about educational and vocational plans and opportunities

(B) Improving mathematical ability

(C) Finding part-time work

(D) Counseling about personal problems

(E) Increasing reading ability

(F) Developing good study habits

(G) Improving writing ability

ACT

Many colleges offer special assistance for the individual development of students. You may wish to seek such assistance. Please respond Y or N to each item.

---

19. I need help deciding on my educational and vocational plans.

20. I need help in expressing my ideas in writing.

21. I need help in improving my reading speed and comprehension.

22. I need help in improving my study skills.

23. I need help in improving my mathematical skills.

24. I would like personal counseling.

SAT Item	ACT Item	Created Variables
A	19	Educational and vocational plans
G	20	Writing
E	21	Reading
F	22	Study skills
B	23	Mathematics
D	24	Personal counseling

Note 47: This variable was collapsed (from both SAT and ACT tests) to 135 categories. The following lists indicate what each source value (ACT or SAT) became when recoded.

ATP Major Fields of Study Recode List

100	AGRICULTURE	001	AGRICULTURE
101	agriculture economics	002	agriculture economics
102	agronomy, field crops	003	agronomy, field crops
103	animal science	004	animal science
104	dairy science	004	animal science
105	fish and game, wildlife management	005	fish and game, wildlife management
106	food science	006	food science
107	horticulture	007	horticulture
108	landscaping	007	horticulture
109	ARCHITECTURE AND ENVIRONMENTAL DESIGN	008	ARCHITECTURE
110	architecture	008	ARCHITECTURE
111	city planning	008	ARCHITECTURE
112	urban development	008	ARCHITECTURE
113	ART	009	ART
114	art history	010	art history
115	commercial art	011	commercial art
116	design	009	ART
117	fashion design	009	ART
118	graphic arts	012	graphic arts
119	interior decorating	013	interior decorating
120	photography	014	photography
121	printing	012	graphic arts
122	studio art	009	ART
123	BIOLOGICAL SCIENCES	015	BIOLOGICAL SCIENCES
124	bacteriology	015	BIOLOGICAL SCIENCES
125	biochemistry	016	biochemistry
126	biology	017	biology
127	biophysics	015	BIOLOGICAL SCIENCES
128	botany	018	botany
129	ecology	019	ecology
130	marine biology	117	oceanography
131	physiology	015	BIOLOGICAL SCIENCES
132	zoology	020	zoology

Note 47 (continued)

133	BUSINESS AND COMMERCE	021	BUSINESS AND COMMERCE
134	accounting	022	accounting
135	advertising	023	advertising
136	business management and administration	024	business management and administration
137	court reporting	131	TRADE AND VOCATIONAL
138	finance and banking	025	finance and banking
139	hotel and restaurant administration	026	hotel and restaurant administration
140	industrial management	027	industrial management
141	marketing	029	sales and retailing
142	real estate	028	real estate
143	sales and retailing	029	sales and retailing
144	secretarial duties	030	secretarial studies
145	transportation and commerce	031	transportation and commerce
146	COMMUNICATIONS	032	COMMUNICATIONS
147	communications	032	COMMUNICATIONS
148	film	032	COMMUNICATIONS
149	journalism	033	journalism
150	radio and television	034	radio and television
151	COMPUTER SCIENCE AND SYSTEMS ANALYSIS	035	COMPUTER SCIENCE AND SYSTEMS ANALYSIS
152	computer science	036	computer science
153	data processing	037	data processing
154	systems analysis	038	systems analysis
155	EDUCATION	039	EDUCATION
156	agricultural education	040	agricultural education
157	art education	041	art education
158	business education	042	business education
159	child development and nursery education	044	elementary education
160	education of exceptional children	043	special education
161	education of the deaf	043	special education
162	education of the mentally retarded	043	special education
163	elementary education	044	elementary education
164	general education	039	EDUCATION
165	health education	045	health education

Note 47 (continued)

166	home economics education	099	HOME ECONOMICS
167	industrial arts education	046	industrial arts education
168	music education	047	music education
169	physical education	048	physical education
170	recreation	048	physical education
171	secondary education	049	secondary education
172	speech and hearing	050	speech and hearing
173	vocational trade and industrial education	046	industrial arts education
174	ENGINEERING	051	ENGINEERING
175	aerospace and aeronautical engineering	052	aerospace and aeronautical engineering
176	agricultural engineering	053	agricultural engineering
177	air-conditioning engineering	054	air-conditioning engineering
178	architectural engineering	055	architectural engineering
179	ceramic engineering	051	ENGINEERING
180	chemical engineering	056	chemical engineering
181	civil engineering	057	civil engineering
182	construction and transportation	051	ENGINEERING
183	drafting	058	drafting
184	electrical engineering	059	electrical engineering
185	engineering aide	051	ENGINEERING
186	engineering design	051	ENGINEERING
187	engineering sciences	051	ENGINEERING
188	industrial and management engineering	060	petroleum engineering
189	industrial labotarory technology	051	ENGINEERING
190	instrumentation technology	051	ENGINEERING
191	materials science	051	ENGINEERING
192	mechanical engineering	061	mechanical engineering
193	metallurgical engineering	062	metallurgical engineering
194	mining and mineral engineering	063	mining and mineral engineering
195	naval architecture and marine engineering	064	naval architecture and marine engineering
196	nuclear technology	065	nuclear technology
197	petroleum engineering	066	petroleum engineering
198	plastics technology	051	ENGINEERING
199	quality control technology	051	ENGINEERING
200	surveying	051	ENGINEERING
201	textile engineering	051	ENGINEERING
202	ENGLISH AND LITERATURE	067	ENGLISH AND LITERATURE
203	creating writing	068	creative writing
204	English	067	ENGLISH AND LITERATURE
205	literature	069	literature
206	speech	070	speech

207	ETHNIC STUDIES	071	ETHNIC STUDIES
208	American Indian studies	071	ETHNIC STUDIES
209	black studies	071	ETHNIC STUDIES
210	Mexican American studies	071	ETHNIC STUDIES
211	Spanish-American studies	071	ETHNIC STUDIES
212	FOREIGN LANGUAGES	072	FOREIGN LANGUAGES
213	Classical languages	073	Classical languages
214	Eastern languages	072	FOREIGN LANGUAGES
215	French	074	French
216	German	075	German
217	Italian	076	Italian
218	linguistics	077	linguistics
219	Russian	078	Russian
220	Spanish	079	Spanish
221	FORESTRY AND CONSERVATION	080	FORESTRY AND CONSERVATION
222	GEOGRAPHY	081	GEOGRAPHY
223	HEALTH AND MEDICAL PROFESSIONS	082	HEALTH AND MEDICAL PROFESSIONS
224	dental assisting	083	dental assisting
225	dental hygiene	084	dental hygiene
226	dental technology	085	dental technology
227	health and safety	086	health and safety
228	laboratory technology	088	medical technology
229	medical assisting	087	medical assisting
230	medical records librarian	082	HEALTH AND MEDICAL PROFESSIONS
231	medical technology	088	medical technology
232	nursing-practical	089	nursing-practical
233	nursing-registered	090	nursing-registered
234	occupational therapy	091	occupational therapy
235	optometry	092	optometry
236	pharmacy	093	pharmacy
237	physical therapy	094	physical therapy
238	predentistry	095	predentistry
239	premedicine	096	premedicine
240	radiology and X-ray technology	097	radiology and x-ray technology

Note 47 (continued)

241	HISTORY AND CULTURES	098	HISTORY AND CULTURES
242	American	098	HISTORY AND CULTURES
243	ancient	098	HISTORY AND CULTURES
244	area and regional	098	HISTORY AND CULTURES
245	European	098	HISTORY AND CULTURES
246	HOME ECONOMICS	099	HOME ECONOMICS
247	clothing and textiles	100	clothing and textiles
248	family relations	101	family relations
249	food and nutrition	102	food and nutrition
250	infant and child care	103	infant and child care
251	institution management	104	institution management
252	LIBRARY SCIENCE	039	EDUCATION
253	MATHEMATICS	105	MATHEMATICS
254	statistics	106	statistics
255	MILITARY SCIENCE	107	MILITARY SCIENCE
256	air science	107	MILITARY SCIENCE
257	merchant marine	107	MILITARY SCIENCE
258	military science-army	107	MILITARY SCIENCE
259	naval science	107	MILITARY SCIENCE
260	MUSIC	108	MUSIC
261	composition and theory	108	MUSIC
262	instrumental music	108	MUSIC
263	music history	109	music history
264	voice	108	MUSIC

Note 47 (continued)

265	PHILOSOPHY AND RELIGION	110	PHILOSOPHY
266	philosophy	110	PHILOSOPHY
267	religion	111	religion
268	scholastic philosophy	111	religion
269	theology	111	religion

270	PHYSICAL SCIENCES	112	PHYSICAL SCIENCES
271	astronomy	113	astronomy
272	chemistry	114	chemistry
273	earth science	115	earth science
274	geology	116	geology
275	meteorology	112	PHYSICAL SCIENCES
276	oceanography	117	oceanography
277	physical sciences	112	PHYSICAL SCIENCES
278	physics	118	physics

279	PSYCHOLOGY	119	PSYCHOLOGY
280	child psychology	119	PSYCHOLOGY
281	experimental psychology	119	PSYCHOLOGY
282	general psychology	119	PSYCHOLOGY
283	social psychology	119	PSYCHOLOGY

284	SOCIAL SCIENCES	120	SOCIAL SCIENCES
285	anthropology	121	anthropology
286	correction administration	124	police science
287	economics	122	economics
288	fire science	131	TRADE AND VOCATIONAL
289	foreign service	123	international relations
290	industrial relations	027	industrial management
291	international relations	123	international relations
292	police science	124	police science
293	political science	125	political science
294	public administration	126	public administration
295	social work	127	social work
296	sociology	128	sociology

Note 47 (continued)

297	THEATER ARTS	129	DRAMATIC ARTS
298	dance	130	dance
299	drama	129	DRAMATIC ARTS
300	theater arts	129	DRAMATIC ARTS
301	TRADE AND VOCATIONAL	131	TRADE AND VOCATIONAL
302	airline hostess	131	TRADE AND VOCATIONAL
303	automotive maintenance	132	automotive maintenance
304	aviation maintenance	133	aviation maintenance
305	building construction	131	TRADE AND VOCATIONAL
306	carpentry	134	carpentry
307	cosmetology	131	TRADE AND VOCATIONAL
308	mortuary service	131	TRADE AND VOCATIONAL
309	OTHER	135	UNDECIDED AND OTHER
310	UNDECIDED	135	UNDECIDED AND OTHER

ACT Major Fields of Study Recode List

100	AGRICULTURE, general	001	AGRICULTURE
101	Agricultural Business	002	agriculture economics
102	Agricultural Economics	002	agriculture economics
103	Agricultural and Farm Management (farming and ranching)	005	fish and game, wildlife management
104	Agriculture, Forestry, and Wildlife Technologies	001	AGRICULTURE
105	Agronomy (field crops and crop management)	003	agronomy, field crops
106	Animal Science (husbandry)	004	animal science
107	Fish, Game, and Wildlife Management	005	fish and game, wildlife management
108	Food Science and Technology	006	food science
109	Forestry	080	FORESTRY AND CONSERVATION
110	Horticulture/Ornamental Horticulture	007	horticulture
111	Natural Resources Management (soil conservation)	080	FORESTRY AND CONSERVATION

120	ARCHITECTURE, general	008	ARCHITECTURE
121	Architecture Technology	008	ARCHITECTURE
122	City, Community, and Regional Planning	008	ARCHITECTURE
123	Environmental Design, general	008	ARCHITECTURE
124	Interior Design	013	interior decorating

130	BIOLOGICAL SCIENCES, general	015	BIOLOGICAL SCIENCES
131	Biology	017	biology
132	Biochemistry	016	biochemistry
133	Botany	018	botany
134	Ecology	019	ecology
135	Microbiology	015	BIOLOGICAL SCIENCES
136	Zoology	020	zoology

140	BUSINESS AND COMMERCE, general	021	BUSINESS AND COMMERCE
141	Accounting	022	accounting
142	Banking and Finance	025	finance and banking
143	Business Economics	021	BUSINESS AND COMMERCE
144	Business Management and Administration	024	business management and administration

145	Food Marketing	026	hotel and restaurant administration
146	Hotel and Restaurant Management	026	hotel and restaurant administration
147	Labor and Industrial Relations	027	industrial management
148	Office Management	024	business management and administration
149	Marketing and Purchasing (sales and retailing)	029	sales and retailing
150	Real Estate and Insurance	028	real estate
151	Recreation and Tourism	021	BUSINESS AND COMMERCE
152	Secretarial Studies	030	secretarial studies
153	Transportation and Public Utilities	031	transportation and commerce

160	COMMUNICATIONS, general	032	COMMUNICATIONS
161	Journalism	033	journalism
162	Radio/Television (related to broadcasting)	034	radio and television
163	Advertising	023	advertising

170	COMPUTER AND INFORMATION SCIENCES, general	035	COMPUTER SCIENCE AND SYSTEMS ANALYSIS
171	Computer Programming	036	computer science
172	Information Systems and Sciences	036	computer science
173	Systems Analysis	038	systems analysis
174	Data Processing Technology	037	data processing
175	Computer Operating	037	data processing
176	Data Systems Repair	035	COMPUTER SCIENCE AND SYSTEMS ANALYSIS

180	EDUCATION, general	039	EDUCATION
181	Agricultural Education	040	agricultural education
182	Art Education	041	art education
183	Business, Commerce, and Distributive Education	042	business education
184	Elementary Education	044	elementary education
185	English Education	067	ENGLISH AND LITERATURE
186	Home Economics Education	099	HOME ECONOMICS
187	Industrial Arts, Vocational/Technical Education	046	industrial arts education
188	Mathematics Education	105	MATHEMATICS
189	Music Education	047	music education
190	Physical Education	048	physical education

191	Science Education	039	EDUCATION
192	Secondary Education, general	049	secondary education
193	Social Science Education	039	EDUCATION
194	Special Education	043	special education
195	Speech Education	050	speech and hearing

200	ENGINEERING, general	051	ENGINEERING
201	Aerospace, Aeronautical, and Astronautical	052	aerospace and aeronautical engineering
202	Agricultural Engineering	053	agricultural engineering
203	Architectural Engineering	055	architectural engineering
204	Chemical Engineering	056	chemical engineering
205	Civil Engineering	057	civil engineering
206	Electrical, Electronics, and Communications Engineering	059	electrical engineering
207	Environmental and Ecological Engineering	057	civil engineering
208	Geological Engineering	051	ENGINEERING
209	Industrial and/or Management Engineering	060	industrial and management engineering
210	Mechanical Engineering	061	mechanical engineering
211	Metallurgical and Materials Engineering	062	metallurgical engineering
212	Mining and Mineral Engineering	063	mining and mineral engineering
213	Nuclear Engineering	065	nuclear technology
214	Ocean Engineering	064	naval architecture and marine engineering
215	Petroleum Engineering	066	industrial and management engineering

220	FINE AND APPLIED ARTS, general	009	ART
221	Applied Design (ceramics, weaving, commercial art)	011	commercial art
222	Art (painting, drawing, sculpture)	009	ART
223	Art History and Appreciation	010	art history
224	Dance	130	dance
225	Dramatic Arts (theater arts)	129	DRAMATIC ARTS
226	Music (liberal arts)	108	MUSIC
227	Music (performing, composition, theory)	108	MUSIC
228	Music History and Appreciation	109	music history
229	Photography/Cinematography	014	photography

230	FOREIGN LANGUAGES, general	072	FOREIGN LANGUAGES
231	French	074	French
232	German	075	German
233	Italian	076	Italian
234	Latin	073	Classical Languagues
235	Spanish	079	Spanish
236	Russian	078	Russian

240	HEALTH PROFESSIONS	082	HEALTH AND MEDICAL PROFESSIONS
241	Dentistry	095	predentistry
242	Dental Assistant	083	dental assisting
243	Dental Hygiene	084	dental hygiene
244	Dental Lab Technology	085	dental technology
245	Environmental Health Technologies	086	health and safety
246	Medicine	096	premedicine
247	Medical Assistant or Medical Office Assistant	087	medical assisting
248	Medical or Laboratory Technology	088	medical technology
249	Nursing (Registered)	090	nursing-registered
250	Nursing (licensed practical nurse)	089	nursing-practical
251	Occupational Therapy	091	occupational therapy
252	Optometry	092	optometry
253	Pharmacy	093	pharmacy
254	Physical Therapy	094	physical therapy
255	Public Health	086	health and safety
256	Radiology	097	radiology and x-ray technology
257	X-Ray Technology	097	radiology and x-ray technology
258	Surgical Technology (surgeon's assistant, etc.)	082	HEALTH AND MEDICAL PROFESSIONS
259	Veterinary Medicine	015	BIOLOGICAL SCIENCES

260	HOME ECONOMICS, general	099	HOME ECONOMICS
261	Clothing and Textiles	100	clothing and textiles
262	Consumer Economics and Home Management	101	family relations
263	Family Relations and Child Development	103	infant and child care
264	Foods and Nutrition (including dietetics)	102	food and nutrition
265	Institutional Management	104	institution management

270	LETTERS (Humanities), general	067	ENGLISH AND LITERATURE
271	Classics	073	Classical Languages
272	Comparative Literature	069	literature
273	Creative Writing	068	creative writing
274	English, general	067	ENGLISH AND LITERATURE
275	Linguistics	077	linguistics
276	Literature, English	069	literature
277	Philosophy	110	PHILOSOPHY
278	Religion	111	religion
279	Speech, Debate, Forensic Science	070	speech

280	MATHEMATICS, general	105	MATHEMATICS
281	Applied Mathematics	105	MATHEMATICS
282	Statistics (mathematical and theoretical)	106	statistics

285	PHYSICAL SCIENCE, general	112	PHYSICAL SCIENCES
286	Astronomy	113	astronomy
287	Chemistry	114	chemistry
288	Earth Sciences	115	earth science
289	Geology	116	geology
290	Oceanography	117	oceanography
291	Physics	118	physics

300	COMMUNITY SERVICE, general	127	social work
301	Law Enforcement and Correction (police science)	124	police science
302	Parks and Recreation Management	126	public administration
303	Public Administration	126	public administration
304	Social Work	127	social work
305	Military	107	MILITARY SCIENCE

310	SOCIAL SCIENCES, general	120	SOCIAL SCIENCES
311	Anthropology	121	anthropology
312	Area Studies (American Civilization, American Studies, etc.)	120	SOCIAL SCIENCES
313	Economics	122	economics

314	Ethnic Studies (Asian Studies, Black Studies, Chicano Studies, etc.)	071	ETHNIC STUDIES
315	Geography	081	GEOGRAPHY
316	History	098	HISTORY AND CULTURES
317	International Relations	123	international relations
318	Law (prelaw)	120	SOCIAL SCIENCES
319	Political Science	125	political science
320	Psychology	119	PSYCHOLOGY
321	Sociology	128	sociology

330	TRADE, INDUSTRIAL, AND TECHNICAL, general	131	TRADE AND VOCATIONAL
331	Agricultural Mechanics and Technology	001	AGRICULTURE
332	Air-Conditioning, Refrigeration, and Heating Technology	054	air-conditioning engineering
333	Aeronautical and Aviation Technology	133	aviation maintenance
334	Appliance Repair	131	TRADE AND VOCATIONAL
335	Automobile Body Repair	132	automotive maintenance
336	Automobile Mechanics	132	automotive maintenance
337	Business Machine Maintenance	131	TRADE AND VOCATIONAL
338	Carpentry and Construction	134	TRADE AND VOCATIONAL
339	Drafting/Engineering Graphics	058	drafting
340	Electricity and Electronics	131	TRADE AND VOCATIONAL
341	Engineering Technology - Aeronautical	051	ENGINEERING
342	Engineering Technology - Automotive	051	ENGINEERING
343	Engineering Technology - Civil	051	ENGINEERING
344	Engineering Technology - Industrial/ Manufacturing	051	ENGINEERING
345	Engineering Technology - Mechanical	061	mechanical engineering
346	Graphic Arts (printing, typesetting)	012	graphic arts
347	Heavy Equipment Operating	131	TRADE AND VOCATIONAL
348	Dry Cleaning, Laundry, and Clothing Technology	131	TRADE AND VOCATIONAL
349	Industrial Arts	131	TRADE AND VOCATIONAL
350	Leatherworking (shoe repair, etc.)	131	TRADE AND VOCATIONAL
351	Machinework (tool and die, etc.)	131	TRADE AND VOCATIONAL
352	Masonry (brick, cement, stone, etc.)	131	TRADE AND VOCATIONAL
353	Metalworking	131	TRADE AND VOCATIONAL
354	Plumbing and Pipefitting	131	TRADE AND VOCATIONAL
355	Radio/TV Repair	131	TRADE AND VOCATIONAL
356	Small-Engine Repair	131	TRADE AND VOCATIONAL
357	Upholstering	131	TRADE AND VOCATIONAL
358	Watch Repair and other Instrument Maintenance and Repair	131	TRADE AND VOCATIONAL
359	Welding	131	TRADE AND VOCATIONAL
360	Woodworking (cabinetmaking, millwork)	131	TRADE AND VOCATIONAL

370 GENERAL STUDIES	135 UNDECIDED & OTHER

000 Undecided

END OF NOTE 47

Note 48 The variable is a collapsed set of values from college major field of study (col. 1110-1112). Each of the values listed on the SAT and ACT "major field of study" list was first recoded by the method for college major field of study and then collapsed into the 27 major categories of fields. For codes, see pages 39-42.

Note 49 Although both the SAT and ACT included five response categories for the advanced placement items, only four of the categories were common to both. Four variables were created as shown:

SAT

18. Do you plan to apply for placement in advanced courses, course credit, or exemption from required courses in certain fields of college study? Mark the letter for each field in which you plan to apply.

(A) English

(B) Mathematics

(C) Foreign Languages

(D) Sciences

(E) History

ACT

Advanced Placement, Accelerated or Honors Courses

While in high school, I was enrolled in advanced placement, accelerated or honors courses in the following areas. Use the responses below to answer all the items in this group.

Yes .... Y
No .... N

94. English
95. Mathematics
96. Social studies
97. Natural sciences
98. Foreign language

SAT Item	ACT Item	Created Variables
A	94	English
B	95	Mathematics
C	98	Foreign language
D	97	Science

Note 50 Values for SAT were recoded as follows

SAT

6. How would you compare your achievement in subjects taken since beginning ninth grade with that of the other students in your high school class?

(A) Highest tenth } top fifth
(B) Second tenth }
(C) Second fifth
(D) Middle fifth
(E) Fourth fifth
(F) Lowest fifth

1 = lowest fifth	1 = bottom quarter
2 = fourth fifth	2 = middle half
3 = middle fifth	2 = middle half
4 = second fifth	2 = middle half
5 = second tenth	3 = top quarter
6 = highest tenth	3 = top quarter

Values for ACT were recoded as follows:

ACT

81. My class rank in high school is (was)(If you are not sure, give your best estimate.)

top quarter 1
second quarter 2
third quarter 3
fourth quarter 4

1 = top quarter	3 = top quarter
2 = second quarter	2 = middle half
3 = third quarter	2 = middle half
4 = fourth quarter	1 = bottom quarter

No note 51

No note 52

Note 53 This is a dummy variable. If the college of entry (CIRP) is the same as the first choice in the 12th grade, then the value 2=yes is used. Otherwise, the value 1=no is used.

Note 54 This is a dummy variable. If college of entry (CIRP) was among one of the possible 6 from the 12th grade file, then the value 2=yes is used. Otherwise, the value 1=no is used.

Note 55 This is a 3 category variable.

3 = student applied to and was accepted by first choice of 12th grade.
2 = student applied to and was turned down by first choice of 12th grade.
1 = student did not apply to first choice of 12th grade.

The construction of this variable is based on comparing the college choice set of CIRP to the first college listed on the 12th grade record.

Note 56 This is a dummy variable.

2 = student applied to first choice of 12th grade.
1 = student did not apply to first choice of 12th grade.

This variable is constructed by comparing the college choice set of CIRP to the first college listed on the 12th grade record.

Note 57 This is a dummy variable.

2 = student was accepted by first choice of 12th grade.
1 = student was not accepted by first choice of 12th grade.

This variable is constructed by comparing the college choice set of CIRP to the first college listed on the 12th grade record.

Note 58 This is a dummy variable.

2 = at least 1 of the 4 possible CIRP colleges to which the student applied is given as 1 of the possible 6 colleges listed on the 12th grade record.

1 = none of the CIRP colleges to which the student applied is listed as 1 of the 6 possible colleges on the 12th grade record.

Note 58A

This is a dummy variable.

2 = at least 1 of the 4 possible CIRP colleges to which the student was accepted is given as 1 of the possible 6 colleges listed on the 12th grade record.

1 = none of the CIRP colleges to which the student was accepted is listed as 1 of teh 6 possible colleges on the 12th grade record.

Note 59

See note 34

No Note 60

Note 61

In order to be included in the weighting scheme, the subject could not be currently enrolled in postsecondary education at the time of testing and had to be residing in the United States.

No Note 62

Note 63: 1970 Census data were used to create a matrix, by state, of sex x race x family income for all families with a first-time college student (freshman). Family incomes were inflated to 1974 levels using CPS data. Data from this file were also tabulated by state, sex, race, and family income (from SAT or ACT 12th grade questionnaire), and weights computed to inflate file counts to population counts. If for any of these three varaibles there was an invalid value then for that variable the CIRP data were used. If the CIRP data then contained invalid information, the following missing value assumptions were made:

race = white
sex = male*
income = modal income response of race from table (below).

Then for each race item (7 categories) the modal income response, excluding missing data, was determined. The modal response was then decremented by one category to reflect the lower income distribution of non-respondents.

Race		Income
White	=	$12 - 14,999
Black	=	$7,500 - 8,999
American Indian	=	$9 - 11,999
Oriental	=	$9 - 11,999
Mexican American	=	$7,500 - 8,999
Puerto Rican American	=	$6 - 7,499
Other	=	$9 - 11,999

* Because of clerical editing of names, virtually no CIRP students (less than 1 in 1,000) have missing sex.

Note 64: This weight corrects for bias by college, high school grades, sex, and year graduated from high school. It is useful in correcting for bias within each CIRP college in who takes college admissions tests immediately prior to matriculating. It does not produce population estimates (see note 65).

Note 65: Inflates weight described in note 64 to population of full-time, first-time entering freshman for Fall, 1975. Caution should be used in applying this weight, since it is nonzero only for students from 366 CIRP "good data" institutions. Weights for all other students are zero. See Astin, A.W., King, M.R., and Richardson, The American Freshman: National Norms for 1975. Los Angeles, Graduate School of Education, University of California, Los Angeles, 1975.

Note 66

PSAT College major choice code

Numerically Ordered

	College major		College major
09	Petroleum engineering	50	Anthropology, archaeology
10	Engineering (unspecified)	52	Art (graphic, design)
11	Aeronautical	53	Biological sciences (unspecified)
12	Ceramic	54	Botany
13	Chemical	55	Drama
14	Civil, structural	56	Earth sciences (unspecified)
15	Electrical	57	Economics
16	Industrial	58	Art education
17	Mechanical	59	Elementary education
18	Metallurgical	60	Business administration
19	Mining	61	Accounting
20	Sciences (unspecified)	62	Actuarial science
21	Astronomy	63	Banking, finance
22	Biology	64	Music education
23	Chemistry	65	Transportation studies
24	Geology	66	Secondary education
25	Mathematics, statistics	67	Agricultural engineering
26	Physics	68	Engineering science
27	Meteorology	69	Geography
28	Biochemistry	70	Agriculture
29	Biophysics	71	Architecture
30	Advertising	72	Forestry
31	Premedicine	73	Home economics
32	Predentistry	74	Journalism
33	Technology (medical, lab, dental,	75	Library science
34	Nursing	76	Physical education
35	Occupational therapy	77	Speech
36	Physical therapy	78	Languages (modern)
37	Veterinary science	79	Literature (comparative)
38	Pharmacy	80	Oceanography
39	Preoptometry	81	Physical sciences (unspecified)
40	Liberal arts (unspecified)	82	Physiology
41	Art (fine arts)	83	Political science
42	English	84	Prelaw
43	Languages (classical)	85	Religious education
44	Music	86	Sociology
45	Philosophy	87	Religion, theology
46	History	88	Zoology
47	Social sciences (unspecified)	89	Special education
48	Education (unspecified)	90	Undecided
49	Psychology	99	Other

Alphabetically Ordered

	College major		College major
61	Accounting	69	Geography
62	Actuarial science	24	Geology
30	Advertising	46	History
70	Agriculture	73	Home economics
50	Anthropology, archaeology	74	Journalism
71	Architecture	43	Languages (classical)
41	Art (fine arts)	78	Languages (modern)
52	Art (graphic, design	40	Liberal arts (unspecified)
21	Astronomy	75	Library science
63	Banking, finance	79	Literature (comparative)
28	Biochemistry	25	Mathematics, statistics
53	Biological sciences (unspecified)	27	Meteorology
22	Biology	44	Music
29	Biophysics	34	Nursing
54	Botany	35	Occupational therapy
60	Business administration	80	Oceanography
23	Chemistry	38	Pharmacy
55	Drama	45	Philosophy
56	Earth sciences (unspecified)	76	Physical education
57	Economics	81	Physical sciences (unspecified)
48	Education (unspecified)	36	Physical therapy
58	Art	26	Physics
59	Elementary	82	Physiology
64	Music	83	Political science
66	Secondary	32	Predentistry
89	Special	84	Prelaw
10	Engineering (unspecified)	31	Premedicine
11	Aeronautical	39	Preoptometry
67	Agricultural	49	Psychology
12	Ceramic	87	Religion, theology
13	Chemical	85	Religious education
14	Civil, structural	20	Sciences (unspecified)
15	Electrical	47	Social sciences (unspecified)
16	Industrial	86	Sociology
17	Mechanical	77	Speech
18	Metallurgical	33	Technology (medical, lab, dent
19	Mining	65	Transportation studies
09	Petroleum	37	Veterinary science
68	Science	88	Zoology
42	English	90	Undecided
72	Forestry	99	Other

Note 67

PSAT Career choice code

Numerically Ordered

	Career choice
09	Petroleum engineer
10	Engineer (unspecified)
11	Aeronautical
12	Ceramic
13	Chemical
14	Civil, structural
15	Electrical
16	Industrial
17	Mechanical
18	Metallurgical
19	Mining
20	Scientist (unspecified)
21	Astronomer
22	Biological scientist
23	Chemist
24	Geologist
25	Mathematician, statistician
26	Physicist
27	Meteorologist
28	Biochemist
29	Advertiser
30	Anthropologist, archaeologist
31	Physician
32	Dentist
33	Medical technologist
34	Nurse
35	Occupational therapist
36	Physical therapist
37	Veterinarian
38	Pharmacist
39	Optometrist
40	Educator, teacher (unspecified)
42	Elementary
43	Secondary
44	College
45	Religious
46	Special
47	Linguist, interpreter
48	Artist (fine arts)
49	Psychologist
51	Lawyer
52	Government service, politician
53	Minister, theologian, clergyman

	Career choice
54	Sociologist
55	Biophysicist
56	City planner
57	Artist (graphic, design)
58	Musician (except teacher)
59	Computer systems work
60	Business (management)
61	Accountant
62	Actuary
63	Hotel and restaurant manager
64	Geographer
65	Transportation (management)
66	Economist
67	Administrator (education)
68	Art teacher
69	Guidance counselor (education)
70	Farmer, rancher
71	Architect
72	Forester, conservationist
73	Home economist, dietitian
74	Journalist, writer
75	Librarian
76	Physical education teacher
77	Actor, director
78	Entertainer (radio, TV)
79	Military
80	Music teacher
82	Agricultural engineer
83	Science engineer
84	Banker, broker, financier
85	Health fields (unspecified)
86	Interior decorator
87	Oceanographer
88	Personnel work (industrial)
89	Physical scientist
90	Undecided
91	Physiologist
92	Political scientist
93	Sales representative
94	Social scientist (unspecified)
95	Social worker
96	Speech therapist
99	Other

Alphabetically Ordered

	Career choice
61	Accountant
77	Actor, director
62	Actuary
29	Advertiser
30	Anthropologist, archaeologist
71	Architect
48	Artist (fine arts)
57	Artist (graphic, design)
21	Astronomer
84	Banker, broker, financier
28	Biochemist
22	Biological scientist
55	Biophysicist
60	Business (management)
23	Chemist
56	City planner
59	Computer systems work
32	Dentist
66	Economist
40	Educator, teacher (unspecified)
67	Administrator
68	Art
44	College
42	Elementary
69	Guidance counselor
80	Music
76	Physical education
45	Religious
43	Secondary
46	Special
10	Engineer (unspecified)
11	Aeronautical
82	Agricultural
12	Ceramic
13	Chemical
14	Civil, structural
15	Electrical
16	Industrial
17	Mechanical
18	Metallurgical
19	Mining
09	Petroleum
83	Science

	Career choice
78	Entertainer (radio, TV)
70	Farmer, rancher
72	Forester, conservationist
64	Geographer
24	Geologist
52	Government service, politician
85	Health fields (unspecified)
73	Home economist, dietitian
63	Hotel and restaurant manager
86	Interior decorator
74	Journalist, writer
51	Lawyer
75	Librarian
47	Linguist, interpreter
25	Mathematician, statistician
33	Medical technologist
27	Meteorologist
79	Military
53	Minister, theologian, clergyman
58	Musician (except teacher)
34	Nurse
35	Occupational therapist
87	Oceanographer
39	Optometrist
88	Personnel work (industrial)
38	Pharmacist
89	Physical scientist
36	Physical therapist
31	Physician
26	Physicist
91	Physiologist
92	Political scientist
49	Psychologist
93	Sales representative
20	Scientist (unspecified)
94	Social scientist (unspecified)
95	Social worker
54	Sociologist
96	Speech therapist
65	Transportation (management)
37	Veterinarian
90	Undecided
99	Other

Note 67B

Students were asked to indicate if they were "eligible and wish to be considered" for the program of the National Scholarship Service and Fund for Negro Students (NSSFNS).

Note 68

This is a dummy variable. If the student enrolled in his first choice institution on the 11th grade record the value 2=yes is used. Otherwise, the value 1=no was used.

Note 69

This is a dummy variable. If the student enrolled in either of his 11th grade choices the value 2=yes was used. Otherwise, the value 1=no was used.

Note 70

This is a dummy variable. If the student applied to his first choice institution in the 11th grade record the value 2=yes was used. Otherwise, the value 1=no was used.

Note 71

This is a dummy variable. If the student was accepted at his first choice 11th grade choice the value 2=yes was used . Otherwise, the value 1=no was used.

Note 72

This is a dummy variable. If the student applied to either of the 11th grade choices the value 2=yes was used. Otherwise, the value 1=no was used.

Note 73

This is a dummy variable. If the student was accepted at either of the 11th grade choices the value 2=yes was used. Otherwise, the value 1=no was used.

Note 74

For each student's home zip code, thirteen different measures of the local higher education environment were constructed. The principal rationale for computing these measures was the expectation that the student's decisions about what kind of college to attend and where would be affected by the proximity of various types of public and private institutions. The availability of various types of public institutions would be expected to affect decision making only within state boundaries, since students generally do not cross state boundaries to attend public institutions or, if they do, the proximity of the institution is not expected to be as important a factor as in the case of public institutions located within the states. Consequently, the measures involving public institutions were confined to the state within which the student resided. Only the District of Columbia presented problems with measures of public institutions, given that some of the "District of Columbia" zip codes are actually located in suburban Maryland. Thus, proximity measures for public institutions in Washington, D.C. include a few public institutions in nearby Maryland. Otherwise, all measures of public institutions involve only those institutions located within the student's home state. Measures of private institutions, on the other hand, included all private institutions located within the student's home state and all contiguous states. Two states with only the corners touching were considered contiguous as well as all states with common boundaries. Hawaii and Alaska, of course, have no contiguous states.

Final decisions about how to construct the various proximity measures were made by first taking two states -- Massachusetts and California -- with contrasting types of higher educational systems and by plotting various proximity measures against students decisions such as choosing a public versus private college, a two-year versus four-year college, and so forth. The final thirteen measures were chosen primarily on the basis of how well they differentiated students according to these various choice processes. Particular attention was given to students with relatively high scores on college admissions tests (SAT composite of 1150 or ACT equivalent), since such students would presumably be eligible for admission to a wider range of institutions and therefore be more influenced by proximity variables.

The thirteen are described separately below:

1. Distance to nearest public two-year college (1-999 miles; more than 999 recoded to 999).

2. Distance to nearest public four-year college (1-999 miles).

3. Distance to nearest low selectivity public university (prestige less than 5 (see page 18)). The distinction between low and high (see below) selectivity for public universities was considered important, given that students of moderate ability will probably not be eligible for admission to a high selectivity university. Thus, it would be expected that the importance of proximity would vary by the selectivity of the institution. A

similar rationale was involved in sorting out private institutions by selectivity (below).

4. Distance to nearest high selectivity public university (prestige greater than 5 or (prestige equals 5 and selectivity greater than 1020)).

5. Distance to nearest public black college (1-999 miles). This measure would be expected to have an impact on decision making among black students.

6. Number of private low selectivity colleges within 25 miles (selectivity less than 1050) 1-9 (10 or more coded as 9).

7. Number of private medium selectivity college within 25 miles (selectivity between 1050 and 1174) (1-9).

8. Number of private high selectivity colleges within 25 miles (selectivity equal to or greater than 1175) (1-9).

9. Distance to nearest private black college (1-999 miles).

10. Distance to nearest low selectivity Catholic college (selectivity less than 1050) (1-999 miles).

11. Distance to nearest high selectivity Catholic college (selectivity equal to or greater than 1050) (1-999 miles).

12. Number of low selectivity Protestant colleges within 25 miles (selectivity less than 1050) (1-9; recode 10 more to 9).

13. Number of high selectivity Protestant colleges within 25 miles (selectivity equal to or greater than 1050) (1-9).

Note 75

Each of the variables in columns 1396-1463 is measured at the state level (i.e. the student's home state). For example, Percent unemployed (cols. 1396-1463) gives the unemployment rate for the student's home state. All measures are for fiscal year 1974-75.

Sources of the measures:

1. Bureau of Postsecondary Education, Factbook: Summary of Program Information through Fiscal Year 1974.
2. National Association of State Student Aid Programs, Annual Report, 1973 through 1974.
3. U.S. Department of Commerce, Statistical Abstract of the U.S., 1975.
4. U.S. Manpower Administration, Manpower Report of the President Including Reports of the U.S. Department of Labor and the U.S. Department of Health, Education and Welfare, 1974.

Appendix F

Special Analyses of Recent Trends in Postsecondary Access and Choice

Because many federal student aid programs are designed to reduce the financial burden for students from low income families to attend postsecondary education and to expand the student's choice options, several supplementary analyses to studies A and D were performed to assess recent trends in access and choice. Two principal sources were used: recent studies by Larry E. Suter of the U.S. Bureau of the Census* and by Larry L. Leslie for the ERIC Clearinghouse on Higher Education.**

Table A is adopted from data provided in the Suter study. It shows "college participation rates" by family income during the period 1968-1975. These participation rates were obtained by dividing the number of 18-24 year olds enrolled in postsecondary education by the number of 18-24 year olds in the population. Note that participation rates for lower income persons have changed very little. Participation in some of the higher income ranges has declined somewhat.

Table B, also adopted from Suter's study, shows that postsecondary participation rates for Blacks increased dramatically between 1970 and 1976. Rates for higher income Blacks, however, are substantially higher than rates for lower income Blacks. Further, the increases for high income Blacks have been substantially larger than increases for low income Blacks.

The last three tables (C, D, and E) are adopted from Leslie's study, which utilizes Census data together with data from the Cooperative Institutional Research Program (CIRP). Table C shows that participation rates in postsecondary education have actually declined during a period when student costs and student financial aid have increased dramatically.

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*Suter, Larry E., Trends in College Enrollment by Family Income for Regions of the United States. Washington, D.C.: U.S. Bureau of the Census, 1977.

**Leslie, Larry L. Higher Education Opportunity: A Decade of Progress. ERIC - Higher Education Research Report No. 3. Washington, D.C.: American Association for Higher Education, 1977.

Table D shows results similar to those from Table A: participation rates for lower income students have changed very little, while participation rates for higher income students have dropped somewhat. Nevertheless, a strong association between family income and participation remains. Table E shows that the median family income (adjusted to 1975 constant dollars) has changed very little for all freshmen since 1966. Trends for different types of institutions, however, are not the same. To portray these trends more clearly, we have plotted some of the data from Table E in Table F and added data from the past two entering freshmen classes (1976 and 1977). For example, the median income for freshmen entering universities has increased by over $2,300 since 1966, while the median income for freshmen at two-year colleges has decreased by about $1,100. Suter interprets these results to suggest that "the changing cost picture has acted to increase income barriers to attendance to higher-level institutions. Two-year college students are becoming slightly poorer, and university students are becoming richer" (p.20).

Summary

In short, these results provide little evidence of an increase in college participation rate of students from low income families during a period in which federal and state financial aid programs increased dramatically. Although the participation rate for Blacks has increased dramatically, this increase has been concentrated among higher income Blacks. Further, while two-year colleges have been enrolling increasing proportions of the low income students who go to college, universities have been enrolling increasing proportions of the high income students. As a consequence, income differentials between students enrolling in different types of institutions have widened rather than narrowed since 1966.

Table A

College Participation Rates by Family Income For Persons 18-24 Years Old, 1968-1975*

	1968	1969	1970	1971	1972	1973	1974	1975
Less $3000	.22	.24	.19	.22	.23	.21	.20	.23
$3,000-5,999	.28	.30	.27	.28	.27	.24	.25	.29
$6,000-7,500	.38	.39	.35	.35	.32	.29	.32	.35
$7,500-10,000	.46	.45	.43	.41	.40	.36	.36	.40
$10,000-15,999	.53	.53	.50	.49	.46	.44	.43	.47
$15,000-24,999	.63	.66	.63	.63	.58	.59	.60	.62
$25,000+	.72	.75	.69	.68	.60	.60	.57	.55

*Source: Current population surveys, 1968-1975.
(1967 constant dollars)

TABLE B

PERCENT OF WHITE AND BLACK 18 TO 24 YEAR-OLD DEPENDENT FAMILY MEMBERS ENROLLED IN COLLEGE BY INCOME: 1970 AND 1976

FAMILY INCOME (1967 DOLLARS)	PERCENT ENROLLED				PERCENTAGE CHANGE 1970 TO 1976	
	1970		1976			
	WHITE	BLACK	WHITE	BLACK	WHITE	BLACK
under $3,000	19.9	15.2	20.0	20.2	.5	32.9
$3,000-$4,999	26.1	19.4	24.9	22.1	-4.5	13.9
$5,000-$7,499	33.0	25.5	31.4	33.9	-4.8	32.9
$7,500-$9,999	40.6	31.4	39.9	40.3	-1.7	28.3
$10,000 or more	54.0	35.9	50.4	53.2	-6.7	48.2

Note: Figures for 1976 are an average of 1975 and 1976
Source: Current population surveys

TABLE C

College Participation Rates by Family Income, Compared with Costs per Student and Aid per Student: 1967-1975

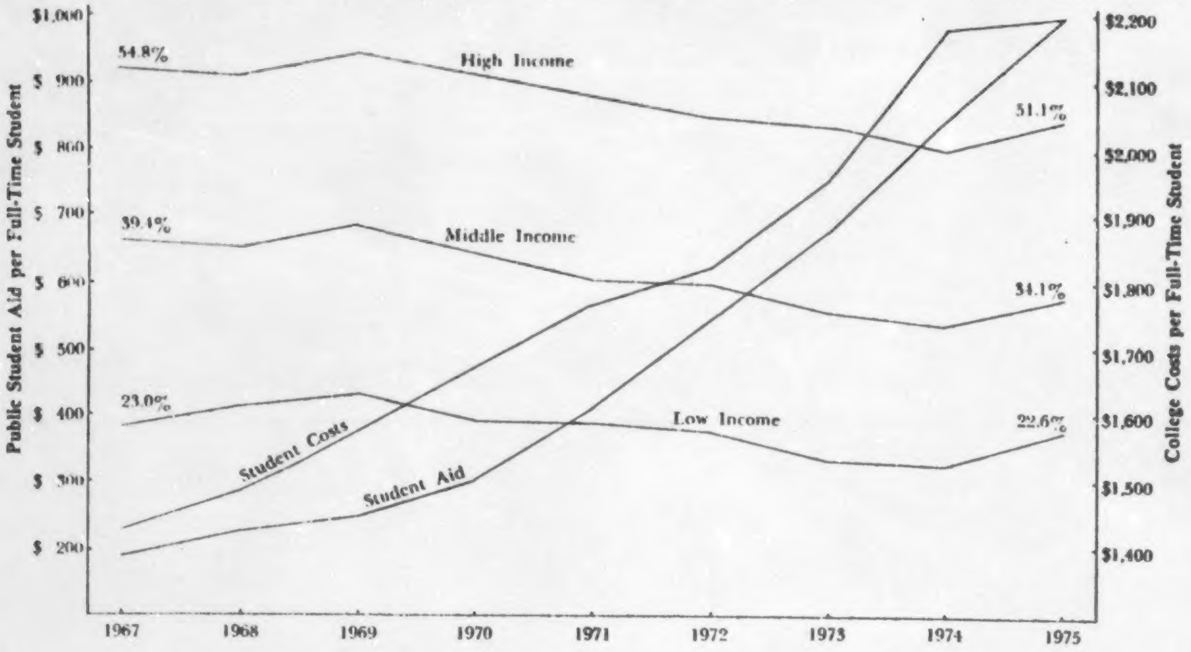


TABLE D

Primary Families with Dependent Members 18 to 24 Years Old Enrolled Full-Time in College, by Family Income[1]: October 1967 to October 1975 (Percentage of All Families Reporting Incomes)

Income Categories	**1967**	**1968**	**1969**	**1970**	**1971**	**1972**	**1973**	**1974**	**1975**
Total Reporting Income	39.1	40.1	42.0	39.8	38.4	37.8	36.2	34.2	37.1
Under $5,000	13.9	17.0	18.2	15.8	16.7	16.7	15.0	14.6	17.2
$5,000 $10,000	27.1	28.3	29.2	27.2	27.0	26.5	23.7	23.2	26.7
$10,000-$15,000	39.4	39.2	40.9	38.9	36.1	35.9	33.4	32.1	34.1
$15,000-$20,000								38.7	44.8
$20,000-$25,000								45.6	46.4
Over $25,000								58.9	63.6
Under $10,000	23.0	24.6	25.5	23.1	23.0	22.4	20.1	19.5	22.6
$10,000-$15,000	39.4	39.2	40.9	38.9	36.1	35.9	33.4	32.1	34.1
Over $15,000	54.8	54.6	56.3	51.4	52.6	51.1	49.7	47.5	51.1

Enrollment Rates Adjusted for High School Dropouts and College Graduates, Persons 18 to 24 Years Old, by Family Income: 1972[2] (Percent)

<$3,000	**$3-4999**	**$5-7499**	**$7500-9999**	**$10-14,999**	**>$15,000**	**Overall**
25.3	24.8	21.3	24.8	34.9	55.7	34.1

[1] Income in constant 1975 dollars.

[2] 1973 dollars.

Note: A dependent family member is a relative of the head of household, excluding the head's wife or any other relative who is married with a spouse present. Such persons are generally the sons and daughters of the household head.

Source: *Current Population Surveys,* U.S. Bureau of the Census.

TABLE E

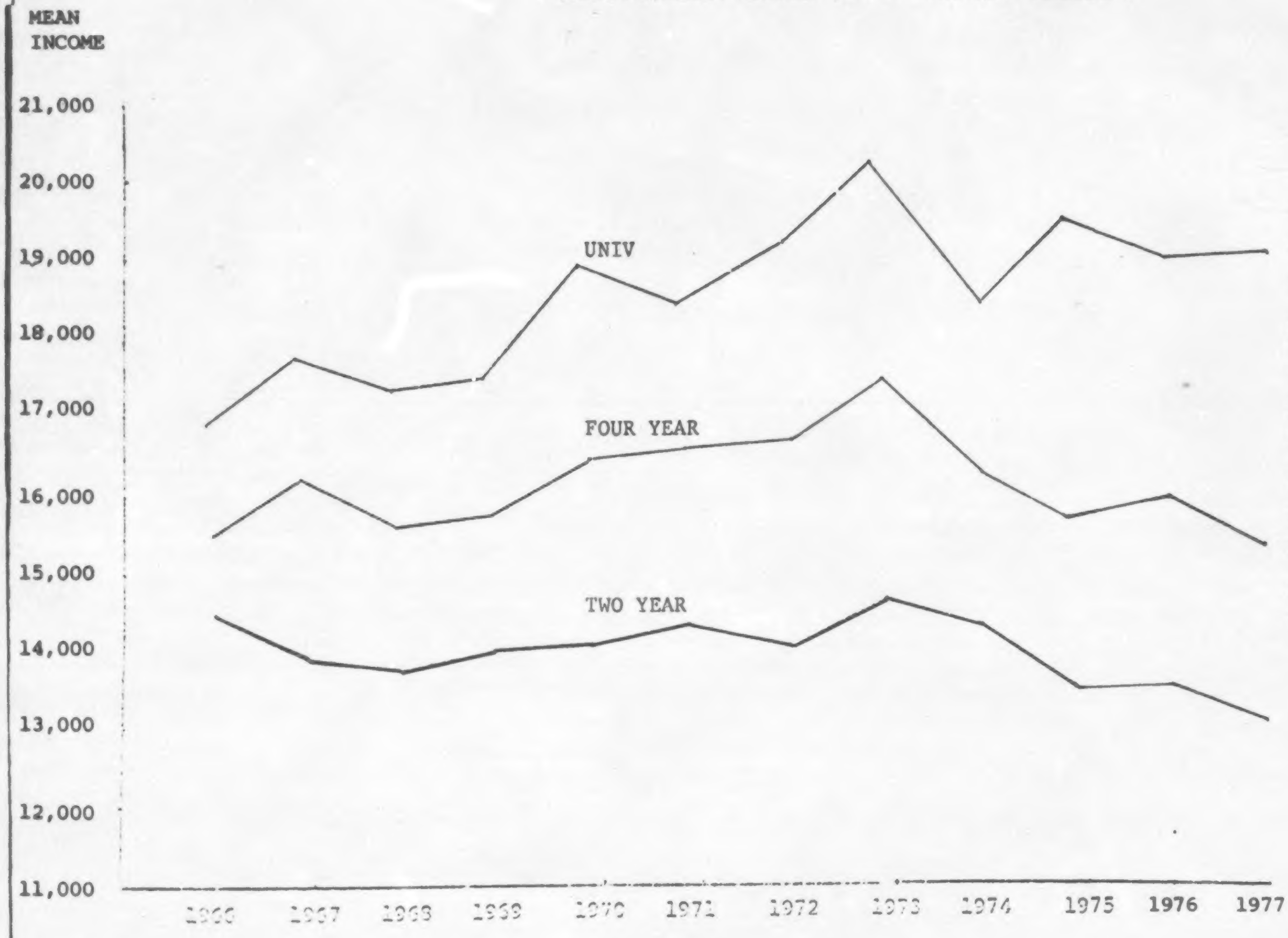
Freshman Enrollments by Family Incomes, by Median Income, and by Level: 1966-1975 (Percentage Distributions, 1975 Constant Dollars)

Level	Total	Less than $10,000	$10,000-$15,000	Over $15,000	Median Income in Constant Dollars
1966					$15,678
Two-Year	100.1	23.4	29.3	47.3	14,514
Four-Year	100.0	21.0	26.5	52.5	15,550
University	100.0	15.4	25.6	59.0	16,977
1967					$15,802
Two-Year	100.0	25.1	31.2	43.7	13,914
Four-Year	100.0	19.4	25.6	55.0	16,157
University	100.0	13.5	23.0	63.5	17,806
1968					$15,619
Two-Year	100.0	26.3	30.1	43.6	13,812
Four-Year	100.1	21.5	25.4	53.1	15,656
University	100.0	15.0	22.7	62.4	17,370
1969					$15,527
Two-Year	100.1	26.2	29.2	44.6	14,046
Four-Year	100.0	20.3	25.5	54.2	15,694
University	100.0	14.7	22.4	62.9	17,500
1970					$16,093
Two-Year	100.0	28.9	26.7	44.4	14,069
Four-Year	100.0	18.9	24.1	57.1	16,407
University	99.9	12.0	19.7	68.3	18,965
1971					$16,020
Two-Year	99.9	24.5	28.6	46.9	14,476
Four-Year	99.9	19.5	23.6	56.9	16,548
University	100.0	12.8	21.8	65.3	18,219
1972					$16,182
Two-Year	100.1	28.8	26.3	44.9	14,086
Four-Year	100.0	19.8	22.2	58.0	16,772
University	100.0	12.2	20.1	67.7	19,141
1973					$16,730
Two-Year	100.2	25.1	26.0	48.9	14,780
Four-Year	99.9	17.6	21.1	61.3	17,396
University	100.0	10.3	18.3	71.4	20,259
1974					$15,599
Two-Year	100.0	26.0	29.1	44.9	14,105
Four-Year	100.0	20.9	24.4	54.7	16,101
University	100.0	14.0	23.1	62.9	18,122
1975					$15,389
Two-Year	99.9	29.3	28.8	41.9	13,375
Four-Year	99.9	22.2	24.5	53.3	15,704
University	99.9	12.8	21.0	66.2	19,336

Source: ACE Annual Freshman Surveys.

TABLE F

TRENDS IN MEDIAN FAMILY INCOME BY INSTITUTIONAL SECTOR (1975 CONSTANT DOLLARS)



	TWOYR	FOURYR	UNIV
1966	$14,514	15,550	16,977
1967	13,914	16,157	17,806
1968	13,812	15,656	17,370
1969	14,046	15,694	17,500
1970	14,069	16,407	18,965
1971	14,476	16,548	18,219
1972	14,086	16,772	19,141
1973	14,780	17,396	20,259
1974	14,105	16,101	18,122
1975	13,375	15,704	19,336
1976	13,482	15,932	18,961
1977	13,152	15,511	19,070

Source: ACE Annual Freshman Surveys.